DOCUMENT RESUME

ED 119 088 CG 010 397

AUTHOR Coleman, Thomas R.
TITLE Motivational Workshops for Low Achieving High School Students in Order to Help Them Improve Their Career Maturity.
PUB DATE 75
NOTE 93p.; Ed.D. Thesis, Nova University

EDRS PRICE MF-$0.83 HC-$4.67 Plus Postage
DESCRIPTORS *Career Choice; Career Planning; Educational Strategies; High School Students; *Low Achievers; *Motivation Techniques; Secondary Education; *Vocational Counseling; *Vocational Maturity; Workshops
IDENTIFIERS Career Maturity Inventory; Workshop Satisfaction Questionnaire

ABSTRACT

Two studies were conducted in which low achieving high school students were given motivational workshops in order to help them improve their career maturity and to understand the processes involved in making wise career choices for themselves. It was hypothesized that in the experimental groups which received career counseling the student's career maturity and vocational certainty would increase over the control groups which received no counseling. In the policy study, intensive three-day workshops were conducted in which each student volunteer took an interest test, participated in a videotaped interview workshop, obtained intensive individual counseling, and went on a field trip to a local technical school and a local community college. The second study was done with students enrolled in a power mechanics course. Over a 40-day period, along with the regular classes in power mechanics, each student was given an interest test, exposed to filmstrips of occupational areas in which he was interested, given individual counseling and participated in interviewing techniques workshops. Most of the students also went on a field trip to a local technical school and a local community college. In both the pilot study and the experiment the students' results on the Career Maturity Inventory and the career certainty questionnaire were generally in the hypothesized direction. (Author/SL)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED119088

Motivational Workshops For Low Achieving High School Students in Order to Help Them Improve Their Career Maturity

THOMAS R. COLEMAN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A MAJOR APPLIED RESEARCH PROJECT PRESENTED TO
NOVA UNIVERSITY IN FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION

NOVA UNIVERSITY

1975

CG 010 397

Acknowledgements

My sincerest thanks goes to my wife Jaynie, Bruce Tuckman, William Baitzel, Robert Krill, Pierson Fellows, Milton Bierman, and Arnie Schwartz. Without the valuable help of these individuals this study would not have been possible.

Also thanks goes to Alan Van Horn, Wanda Boykin, Robert Lett, Alan Moore, and Ann Forester, who lended their invaluable a'd. Special thanks goes to Diann Morton, my typist, who worked feverishly to help get the paper in on time.

Abstract of a Major Applied Research Project Presented
to Nova University in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

MOTIVATIONAL WORKSHOPS FOR LOW ACHIEVING HIGH SCHOOL STUDENTS IN ORDER TO HELP THEM IMPROVE THEIR CAREER MATURITY

By

Thomas R. Coleman

May, 1975

Many of the students that come to Essex County College fail. Many reasons for this failure are given. Some say that the student is not intelligent enough to meet the academic requirements of a two year college. Others say the failure is due to the lack of preparation provided by primary and secondary schools. Still others say that the student fails because he lacks motivation. And even others say that the student does not have clear goals toward which to strive and therefore fails from lack of direction. While one can not be absolutely certain as to the reason for an individual's lack of success there is little doubt that the many community college teachers blame the primary and secondary schools for much of the student's failure in higher education.

It was decided that instead of criticising the secondary schools for the lack of student success in college, that it would be better if some way could

be found in which to help the secondary school better prepare the student for survival in higher education and get a better understanding of what careers he might work for after high school.

Therefore, two studies were conducted in which low achieving high school students were given motivational workshops in order to help them improve their career maturity and to understand the processes involved in making wise career choices for themselves.

It was hypothesized that in the experimental groups which received career counseling (independent variable) the student's career maturity would increase over the control groups which received no counseling. Also, the student would increase his certainty about attaining a career that he might choose (dependent variable).

In the pilot study, intensive three day workshops were conducted in which each student volunteer took an interest test, participated in a videotaped interview workshop, obtained intensive individual counseling and went on a field trip to a local technical school and a local community college.

The second study was done with students enrolled in a power mechanics course. Over a 40 day period, along with the regular classes in power mechanics, each student was given an interest test, exposed to filmstrips of occupational areas in which he was interested, given individual counseling and participated in interviewing techniques workshops. Most of the students also went on a field trip to a local technical school and a local community college.

In both studies the students were given pencil and paper tests in order to discover what they had learned from the counseling.

The first test was the CAREER MATURITY INVENTORY, written by John Crites, and the second was a Likert type questionnaire inquiring about the student's

certainty about attaining a specific career that he had tentatively chosen to pursue.

In both the pilot study and the experiment the students' results on the CAREER MATURITY INVENTORY were generally in the hypothesized direction. However in only one case were the results statistically significant. In both the pilot study and the experiment the results of the career certainty questionnaire were in the hypothesized direction and the results were generally significant.

Another questionnaire was given only to the students who received the counseling. This questionnaire was called the WORKSHOP SATISFACTION QUESTIONNAIRE. The results of this questionnaire revealed that the students believed that the counseling was helpful to them and that they would recommend it to other high school students. Finally, in the study with the students in the power mechanics classes it was found that class attendance increased by about one third. This finding was serendipitous.

CONTENTS

	PAGE
ABSTRACT	1
INTRODUCTION	5
Context	
Problem	
LITERATURE REVIEW	6
Career counseling for the low achieving student	
Career counseling and its effects on the client	
Career Maturity	
Hypotheses	
Rationale	
Operational Definitions	
Significance of Study	
PILOT STUDY	21
Method	
Subjects	
Independent Variable	
Dependent Variable	
Future Planning and Certainty Questionnaire	
Procedures	
Workshop Satisfaction Questionnaire	
Data Analysis	
Results	
EXPERIMENT	40
Method	
Subjects	
Independent Variable	
Dependent Variable	
Procedures	
Data Analysis	
Results	
DISCUSSION	64
CONCLUSION	73
APPENDIX	75
REFERENCES	86

INTRODUCTION

Context

Most community colleges today have noticed the staggering rate at which low achieving students fail. Roueche (1968) stated that,

> The large majority of students who enroll in remedial courses fail to complete those satisfactorily and are doomed to failure or forced to terminate their education. In one typical California public junior college, of 80 percent of the entering students who enrolled in remedial English, only 20 percent of that number continued on into regular English classes. If community colleges realize that on the day a low achieving student walks in the door he is going to fail, the concept of the open door is in real trouble. (p. 3)

Not only do low achieving students fail at a high rate in our community colleges but these students also come to college with unrealistic notions about what the future can offer them. Blocker, Plummer and Richardson, (1965) said,

> Time after time, students who have average or below average academic records in high school and low admission test scores indicate their desire to embark upon preprofessional programs. Their stated educational and occupational goals include medicine, dentistry, law, business administration, architecture, science and similar professions. (p. 118)

Because of these unrealistic notions by low achieving students one study found that only 32 percent of the students entering junior college fulfilled graduation requirements (Medsker, 1960, p. 95).

As evidenced above, there is a tremendous need to counsel low achieving students to help them develop mature conceptions regarding their future goals and avenues through which they can achieve their goals.

Problem

The purpose of this study was to determine whether motivational career counseling workshops, designed for low achieving high school students would help them to (1) develop positive realistic attitudes about making career choices, and (2) gain greater competence in understanding careers and decision processes involved in choosing a future occupation.

LITERATURE REVIEW

Career counseling for the low achieving student

Johnson (1970) characterized low achieving students when he said the following:

> (1) Generally have a poor record of scholastic performance in high school. (2) Are deficient in basic skills. (3) Have poor habits of study (and possibly a poor place to study at home.) (4) Are weakly motivated, often lacking home encouragement to continue in school. (5) Have unrealistic and ill-defined goals. (6) Often represent homes with minimal cultural advantages and minimum standards of living. (7) Have a minimum understanding of what college requires or what opportunities it offers. (preface)

Monroe (1972) further detailed the problems of the low achieving or disadvantaged students.

> The disadvantaged students manifest certain behavior patterns which handicap them in college. They are poorly motivated, and so often where motivation exists it tends to be unrealistic.... The disadvantaged students have emotional problems which undo self-confidence.... Emotionally depressed students tend to be so passive and nonmotivated that they fail to seek help from teachers and counselors. Instead they expect overt directive guidance, even to the point where counseling becomes a compulsory experience for them.... Many of the disadvantaged

> have severe language handicaps. (pp. 107-108)

Monroe (1972) added that,

> After more than a decade of experimentation with programs designed to benefit the disadvantaged students, no panacea, formula, or 'best plan' has been found. Moreover, there is little evidence that the experiments which have been reported have been conducted under scientific conditions so that the results can be accepted with some degree of certainty. (p. 111)

While there may be no absolute panacea, one thing that many educators agree upon is that what most low achieving students need is time. When he comes to college, the student often does not have enough time to overcome the myriad of anxieties and inabilities that he has in school. There often is not enough time for him to attain college level performance. Often the student finds himself a failure in college before he can develop academic strengths.

The student needs time to develop the interest in college. He needs time to improve his reading rate and math skills so that he can handle college courses. The student needs time and counseling in order to more realistically identify his goals and abilities, and to be aware of the opportunities that life offers him.

Counseling and encouragement from the right people can greatly aid the floundering student. Koos (1970) said,

> Although the findings of the studies are hardly in full agreement and disclose varying degrees of realism, it is found that youth who have had experience in programs of counseling indicate realistic preferences in larger proportions. (p. 226)

This study discussed the possibilities of helping the student become realistic about his future and learn to motivate himself so that if and when he goes to college he may have a better chance of succeeding. The fact that

the student needs more time was the reason why this study was done with high school students. Counseling him when he is in college is not soon enough. Often students have failed from our colleges before the counseling can take effect.

Looking at our high school counseling departments, one does not have to explore the literature very long to understand that high school counseling is grossly inadequate. A study by the National Advisory Council on Vocational Education (1972) cited many startling figures and made several statements about the state of counseling today.

They stated that the student-counselor ratios in our secondary high schools was 475:1 (p. 98). They continue to say that "Counselors are much more competent in guiding persons towards college attendance than towards vocational education." (p. 99) Their study also concluded that "Counseling and guidance services are being rejected by the hard core disadvantaged as irrelevant and ineffective." (p.99)

Watts (1973) agreed with the National Advisory Council's report when he stated that counseling is ineffective because:

> Counselors have become excessively preoccupied with administrative tasks, notably scheduling students' course choices and dealing with the mechanics of college applications, though also extending to involvement in disciplinary decisions.... counselors have been to oriented toward the able middle class student. Their preoccupation with college entrance is a case in point. Counselors appear often to have largely ignored vocational guidance. Not only has this been a disservice to those who have entered college without any clear recognition of the vocational implications of their choices, but it has also meant that counselors have often been perceived by non-college bound students as having very little to offer. Their counseling techniques- with a heavy emphasis on nondirectiveness, encouraging the student to articulate his feeling- have often been much more effective with

> successful and middle-class students than with those from deprived backgrounds. (pp. 254-255)

Ginzberg (1971) also agreed with Watts when he said, "Guidance has been centered in the high school with primary attention focused on the college bound." (p. 91)

Tuckman (1969) further emphasized these points by saying:

> When the culturally deprived child goes through school his situation only worsens. His deficit relative to his middle-class counterparts becomes cumulatively greater... the education system tends to selectively reinforce the good students and to pay little attention, or provide less than the necessary remedial help, for the deprived or disadvantaged students. (p. 9)

From these and other studies it would seem that counselors and the educational system can not, and are not doing the job that they ideally should be doing. (Berg, 1971, pp. 1-200)

What type of counseling should low achieving students be given?

> In our culture, it is basic that counselors must decide for themselves and to aid their student counselees to search for the good life. The range of possible counseling roles is broad, including the compeletely passive role (if that is ever possible) and various degrees of active participation in the student's own formulation of his concept of the good life or, as we say, his own standards of behavior and development. (Williamson, 1965, p. 189).

Hoppock (1967) also gave his view when he said,

> The purpose of counseling is to help the client to recognize his own needs and values, to see how these affect the goals that he seeks to reach, to identify these goals and to arrange them as well as he can in order of priority, to discover the possible courses of action in terms of his own goals. What the client decides and when he decides it are his business. (p. 132)

Since the student must live with his choices it should be up to the student to decide what choices to make. The counselor can only make available information that enables the student to make more mature choices.

Bancroft (1971) in his article about counseling the disadvantaged child also agreed that it was difficult for the average middle class counselor to relate to the disadvantaged student. He said,

> For a counselor to work effectively with any student, it is generally agreed that he must understand, accept, and respect him. This is a big order when one thinks in terms of the disadvantaged child, as in many cases counselors have little understanding of the child's life situation outside of school. Such children often manifest characteristics which make it extremely difficult for counselors to accept them. And, either consciously or subconsciously, guidance workers tend to feel superior to children in this category, and look upon them in a rather condescending or patronizing manner rather than one of respect. (p. 345)

Bancroft (1971) continued to say that the approach he believed works with disadvantaged students should be

> Highly structured and quite directive.... Counselors can function more effectively in providing occupational information to disadvantaged children if they will make extensive use of various types of visual material available. Posters, filmstrips, field trips, and films would seem most appropriate for use with these children. (pp. 347-349)

Amos and Gramb's study (1968, pp. 179-196) also emphasized the importance of using films, peer influences, field trips, and other action oriented learning experiences in helping disadvantaged develop career maturity.

Calia (1971) essentially agreed. Calia said that in order to counsel a "culturally deprived client" the counselor should use "action-oriented talk." He wrote,

> Group methods appear to be especially relevant here.... Mutuality of concern and the sheer number of clients interacting simultaneously spark verbalizations and the ventilation of feelings. The 'give and take' of

> group membership, the sharing of experiences and the spontaneity of feelings provide the client with a context in which he can be himself while undertaking the arduous task of uncovering concerns and exploring new directions of change. (p. 381)

Smith and Walz's study (1974) also showed strong results. This study indicated that teaching achievement motivation, along with conducting workshops in human potential group training, and teaching students how to eliminate self defeating behaviors was very effective in vocational training.

Another action-oriented way to help motivate a low achieving student to think about college and whether it will fulfill his needs is to have the student visit a college, sit in on lectures, and talk to the students. Ginzberg (1971) stated that,

> Children from lower income families ... have little or no contact with college graduates or with persons in the professions, and therefore they are less likely to think about attending college. (p. 134)

In counseling the student for specific occupations, many books are published which carry information about the jobs that a person could enter. The indispensable book for every counselor is Occupational Outlook Handbook (most recent annual edition).

While there has been much controversy in the past as how to use handbooks of occupations, one approach currently and rapidly emerging is job clustering. In job clustering the student evaluates his attitudes, interests, and abilities, and then searches for a cluster of jobs that could be satisfying to him. Some areas that he might consider are in clusters related to such things as business and office, environment, health, or transportation.
The Occupational Outlook Quarterly (1973) said of job clustering that:

> Every known job is supposed to fit into one of the clusters. Each cluster would include jobs at all levels from entry level through skilled, technical and professional jobs.

> The cluster would be enduring. For example, it can be assumed that for the foreseeable future our society will be manufacturing, constructing, and transportating things and providing health services. Therefore, clusters in manufacturing, construction, transporting, and the health occupations are likely to be constant. Although individual jobs within these clusters may be phased out because of technological change, other new and emerging jobs will appear in each cluster to take the place of those phased out. If an individual has had well-rounded training in the common core or a particular cluster, his flexibility for moving to another job within that cluster would facilitated, should his present job disappear as a result of technological change. Having mastered the common core of the cluster, he would be able, with a minimum amount of retraining, to move to another type of emerging job within the same cluster. This would provide individuals with the flexibility needed to cope with the changing nature of our economy and our labor force. (p. 17)

Most authorities in vocational counseling agree that the Occupational Outlook Handbook is one of the most important, if not the most important, document to help the student understand the occupational market, its outlook and requirements. Wood (1974) agrees with this idea completely and praises the book when she says,

> The unique contribution of the Handbook and of the research program on which it is based is, however, their sophisticated assessment of prospective employment trends in different industries and occupations. Both counselors and researchers, including the author of this article, have come almost inevitably to rely on the occupational outlook program as the main source of information on the employment future. (p. 302)

It is for the above reasons that the Occupational Outlook Handbook was relied on for use with counseling the students in this study.

Career counseling and its effects on the client

Many studies indicate that career (or vocational) counseling does help the student in a variety of ways. Williamson and Bordin (1940) matched 400

students that received counseling with 400 controls that received no counseling. His findings were that the counseled group scored higher grades on a scale that measured adjustment and they also scored higher grades in college. (pp. 434-440) Even if there may be statistical biases to the Williamson and Bordin study, it certainly does indicate that counseling can aid the student.

Campbell (1965) also did an extensive study with 384 matched pairs of students. Half of the pairs received counseling and the other half received no counseling. Twenty-five years later Campbell found 99 percent of these students and compared them on a academic performance, occupational measures (e.g. salary), and personal adjustment. Generally Campbell found that the counseled group scored higher on all measures. Even though his findings were not significant the fact that there was a difference after twenty-five years attests to the possibility that counseling does aid a student. (pp. 1-205)

Super (1970) said that,

> Research shows that people who have had professional vocational counseling believe that they have profitted from the experience. Over long time spans, those who have been counseled are demonstrably more successful and happier than are matched individuals who have not been counseled. (p. 191)

Generally it is agreed that low achieving students have a very poor self-concept. This statement has been supported with studies by Brazziel and Gordon (1963), Brown (1966), Riessman (1962) and Soares and Soares (1969).

Campbell et al. (1973) said of the low achiever,

> In the vocational realm, education, personal conditions and characteristics have a multiplicative effect. The negative self-concept of this population group necessarily determines their vocational aspiration level and their perception as to what kinds of areas are open to them. In addition their high dropout rate and poor learning and verbal skills in general further minimize heir likelihood of being hired for gainful employment. (p.57)

Cohn (1964) did a study in which he considered the effects of group counseling on the self-concepts of low achieving high school students. He found that counseling did improve the students' self-concepts.

Another study, this one by Mezzano (1968), also involved group counseling with a population Mezzano labels "low-motivated male high school students." Compared in the study was the effect of individual counseling, group counseling and no counseling on different groups of students. Mezzano found that there was no difference between the individually counseled and group counseled students, but that in both cases the counseled students earned larger grade point averages than the control group that received no counseling. An interesting finding of this study reveals what Mezzano calls an "incubation period." He found that directly after the study the students did not perform in a superior manner on grades. After ten weeks, however, the students did show the increase. This study indicates that time is very important for the student to gain value from counseling. Giving a measure directly after counseling may not show the significance that it might show after an "incubation period" of a few weeks.

Not only did studies agree that individual and group counseling has increased grades, increased income, improved the self-concept, and reduced dropout rate in schools, but that individual and group counseling also increased the student's confidence or certainty about being effective in the world of work (Healy, 1974, pp. 146-151).

One technique that appeared especially relevant and effective from looking at the literature was "the interviewing technique." This technique seemed to help the low achieving student become more self-confident and certain of his future (Keil and Barbee, 1973, pp. 50-56).

Another significant study showed that counseling did seem to help hard

to place students get jobs. Flowers (1970) found that group counseling helped 68% of his hard to place rehabilitation clients obtain employment. He used counseling designed to increase personal insights and nurture positive attitudes within his clients. Certainly job obtainment is one of the prime goals of counseling.

Career Maturity

One concept that continues to recur throughout the literature on career education is the idea of "Career Maturity" sometimes called "Vocational Maturity". Often this concept is referred to as the developmental level that a person has obtained in relation to understanding himself and his relationship to being effective in the world, especially the world of work. This concept may also be referred to as "Vocational Fitness." Two men that developed the career maturity concept are Donald E. Super and John O. Crites (1962). Crites (1973) in the past several years has developed an inventory or paper-and-pencil test in which he aims at measuring career fitness. He calls this instrument the Career Maturity Inventory. Previously it was called the Vocational Development Inventory.

Crites (1974) wrote about the Career Maturity Inventory:

> That we are on the threshold of a career counseling which synthesizes the old with the new, however, has been presaged by the construction of several new measures of decision making in vocational appraisal. Among these is the Career Maturity Inventory (CMI), which was designed to assess both the attitudinal and competency factors in career choice during the years of late childhood, adolescence, and early adulthood. It consists of two parts, the attitude scale the competence test. The former is composed of 50 items, paraphrased from statements made by clients in career counseling, which express dispositional response tendencies toward the process of choosing a career, for example, involvement and independence in decision making. In contrast, the competence test measures the several cognitively oriented stages in career choice, beginning with self-appraisal and

> occupational information, proceeding to goal selection, continuing with planning, and culminating in problem solving. Again, the item content represents real life situations, having been culled from the experiences and problems of clients in career counseling. Taken together, the attitude scale and the competence test of the CMI provide both extensive and intensive data on how a client both approaches and engages in the process of career choice. (pp. 274-275)

The Attitude Scale of the Career Maturity Inventory had been given by Crites (1968 and 1973) for many years and one of the findings that Crites (1968) made was that,

> Irrespective of variations in response format and item type, it is evident that responses to certain verbal statements of vocational attitudes and concepts, which are theoretically relevant to the choice of occupation, are monotonically related to age during the adolescent years. (p. 155)

One might ask the question whether the scores on the CMI can be increased by counseling. Crites (1973) addressed himself to that question when he said,

> Attempts to change Attitude Scale scores, from lesser to greater career maturity, through direct manipulations of external environment which impinges upon the individual have been of two kinds:
>
> Some type of counseling experience, either individual or group; Some variation in a didactic exposure, such as an occupational information course or career game.
>
> Results from both approaches have been mixed. (pp. 19-20)

Crites cited studies by Asbury (1967), Bovee (1967), and Guilliland (1966) which indicated that counseling can help increase career maturity. Crites (1973) continued to say:

> The best conclusion which can be drawn at present is that counseling evidently can affect Attitude Scale scores favorably but it is not known why.
>
> Similarly, in experiments where didactic experiences have been manipulated, one has reported highly significant results but the others have been inconclusive. Goodson (1969) performed a "gains" analysis of Pretest and Posttest scores on the Attitude Scale for three experimental groups and one control group including college freshman enrolled in an eight-week orientation course. Not only did he find that the experimental groups all gained significantly, but the controls became less mature in their

> career attitudes over the span of the experiment. In contrast, Schmieding and Jensen (1968) were not able to demonstrate any statistically reliable effects of a twenty-two hour "occupational class" for eleventh and twelfth grade American Indian students; and Shirts (1966) was unsuccessful in demonstrating that playing the Life Career Game (Boocock, 1964) enhances career attitude maturity. Again, these experiments can be criticized for methodological shortcomings (Crites, 1971); however, given what little is known at present about the facilitation of career maturity, it is probably best to take their findings at face value. Thus, it can be concluded that there is evidence of "gains" on the Attitude Scale attributed to some didactic interventions but not others.
>
> Taken in toto, the accumulated research on the Attitude Scale supports its construct validity: in general, it appears to be related to variables to which, theoretically, it should be related and unrelated to variables to which it should not be related. (pp. 20-21).

Studies discussing validity and reliability of the Attitude Scale for the CMI were discussed by Crites. (1973, pp. 14-20) Concerning reliability, Crites (1973) said,

> Item data from Grades 6 through 12 in the standardization sample were used to calculate internal consistency estimates (Kuder-Richardson Formula 20).... On the average (.74), the coefficients are comparable to those of other instruments similar to the Attitude Scale. (p. 14)

Concerning Content Validity, Crites (1973) cited several studies and procedures that he believed points to its validity of content. Finally Crites states that "As defined by this methodology and as developed substantively, the Attitude Scale would appear to have acceptable content validity." (p. 15)

In his research on Criterion-Related Validity, Crites (1973) pointed to a possibility of a "response bias" in the Attitude Scale. In this scale there are 7 true answers and 43 false answers.

After citing several correlational studies that he believed refuted the possibility of a "response bias", Crites (1973) said,

> In summary, the accumulated research on response bias (set and style) as a source of variance in the Attitude Scale has been almost entirely negative, the one possible exception being Shirts' (1968) data on fifth graders. It seems

> reasonable to conclude, therefore, that as a measure of one dimension of construct of career maturity the Attitude Scale is not significantly contaminated with the test-specific sources of response bias. In other words, it is construct valid with respect to this type of measurement error. (p. 17)

Crites (1973) also talked about the Reliability of the Competence Test of the CMI and after citing several studies concluded,

> In general, however, the KR 20's (Kuder-Richardson formula 20) Competence Test are relatively homogenous sets of items and therefore, it can be assured that within a subtest the items measure essentially the same variable. (p. 33)

When the author talked about the validity of the CMI he explained that it was a much newer test and many studies needed to be done before any hard and fast conclusions could be reached. However he did conclude,

> The relationships of the Competence Test to grade as a criterion of development are about what would be expected theoretcially, given the monotonic model and individual differences in career maturity. (p. 34)

Hypotheses

There were three hypotheses.

a. Those low achieving students who attended the career counseling workshops would have more realistic attitudes about making appropriate career choices for themselves than those who did not attend.

b. Those low achieving students that attended the career counseling workshops would be more competent about careers and the decisions involved in choosing a career than those who did not attend.

c. Those low achieving students who attended the career counseling workshops would have clearer conceptions of their future goals and would be more certain about ways of attaining these goals than those who did not attend.

Rationale

Concerning hypotheses a and b it was believed that career counseling would help low achieving students develop more realistic career attitudes and become more competent in understanding and choosing careers because many studies indicated that counseling could help a person get a job (Flowers, 1970, pp. 1-10), become more self-confident (Keil and Barbee, 1973, pp. 50-56), and generally become more effective in life (Williamson and Bordin, 1940, pp. 443-440) and (Campbell, 1965, pp. 1-205).

Concerning hypothesis c, it was hypothesized that students who were counseled would have clearer conceptions about their goals and be more certain about life. Because students who were counseled would discuss their future goals and gain information and learn strategies toward gaining their goals, it was believed that the counseled, low achieving students would be more confident about the future and therefore would be more certain about attaining their goals. Some studies indicated that students who were counseled also increased in certainty about their future goals (Healy, 1974, pp. 146-151). Also students who became more certain about their future seemed to do better in school (Ashby, Wall and Osipow, 1966, pp. 1037-1041). In this study it was decided that the null hypothesis would be rejected if the level of significance was at the .10 level or greater than the .10 level.

Operational Definitions

1. Low achieving students.

They were randomly selected sophomore, junior, and senior high school

student volunteers that had a grade point average in the C or below C range.

2. Career counseling workshops.

These workshops were designed to present to the student information about careers, career choices and decision making processes and considerations involved in selecting appropriate career choices.

3. Realism of attitudes about career choices.

This was measured by the Attitude Scale of the CAREER MATURITY INVENTORY (Crites, 1973).

4. Competence about career choices and the decisions involved in choosing a career.

This was measured by the Competence Test (Parts 1 and 3) of the CAREER MATURITY INVENTORY (Crites, 1973). The CMI has 5 parts. However, it was decided that only parts 1 and 3 would be given because low achieving students dislike tests and would certainly resent and often refuse to take all 5 parts of the CMI.

5. Clearer conceptions and greater certainty regarding future goals.

This was measured by the questionnaire which asked the student to write his career goals and then to indicate how certain he was about attaining these goals.

Significance of Study

As was indicated earlier, the high school student, as well as the college student, is generally poorly informed about careers and how to make effective choices. The purpose of this study was to set up workshops which, if effective, would help increase a low achieving student's maturity about his future career

and the decisions involved in making effective career choices. This study attempted to present a rationale and model for such workshops as well as a stimulus for the development of courses that would help improve a student's career maturity.

The community college gets the products of the high schools. All too often the primary and secondary schools send a person out into the world who is ill prepared for survival academically or in terms of knowing about himself and how he can contribute to the world of careers.

Because one of the functions of the Community College is to serve the community, this study was undertaken in order to find out if counseling could help the frequently neglected low achieving student. This study might indicate yet another way in which community college personnel can be of service to the local high school.

With these facts understood, it was decided to accept the challenge of studying the low achiever. It was hoped that the literature on him could be expanded, and that more and better ways could be discovered and documented to help in the development of effective programs designed to help the low achiever survive and succeed in this impersonal world.

PILOT STUDY

METHOD

Subjects

The subjects asked to participate in this study were sophomore, junior, and senior Montclair High School students in Montclair, New Jersey. The

students that were used in this study were those whom school authorities said had a history of not going to class. The students were mainly recruited by talking to them as they loitered in the halls during class hours. A list of 150 students willing to participate in the workshops was compiled and from this list 50 students were picked because their counselors and other personnel in the school indicated these students needed counseling the most. Most of the students were characterized by low grades, high absentee rates, and many were discipline problems. Of the group of 50 students all were sent letters (to their homerooms) and invited to sign their names with the secretary if they were really serious about gaining counseling. Of that group 32 came and gave their names to the secretary. After they signed their names, these names were randomly pulled from an envelope to form the groups. Sixteen were selected for the experimental group and sixteen for the control group. These students were then promptly sent letters that they must get a permission slip to be released from classes on the times designated for the study. (This is a school rule.) These students were also told in the letter, to hand in the permission slips signed by their teachers, to the same secretary by Friday on the week preceding the counseling. By that Friday only nineteen students had handed in their permission slips and three of the permission slips were not signed by all of the student's teachers. On the day of the counseling many students came but those that did not have a permission slip or those that did not have it properly filled out were turned away by a school administrator (in accordance with a high school rule).

Of the remaining eligible students there were 9 students who had been preassigned to the experimental group and 7 students who had been preassigned

to the control group. Of the experimental subjects, five were female and four were male. All were in the twelfth grade, except for one eleventh grade subject. Of the control group three were female and four were male; five were in the twelfth grade and two were in the eleventh grade. Although this was a small number (N), the couseling workshops were conducted on a pilot study basis.

Independent Variable

Students in the experimental group were asked to attend workshops for two and one-half days. In the workshops the student could learn about careers and the various methods involved in making career choices. The agenda that was followed is presented below.

First Day

8:30 - 9:00 a.m. Social time (donuts and juice were served). At this time the students met with the career counselor and his helpers in order to learn to feel more relaxed and responsive to the counseling.

9:00 - 10:30 a.m. Students met as a group where a discussion ensued about the importance of having goals in life and of planning for one's future. The students were then administered the Curtis Interest Scale (Curtis, 1964.) The objectives of this session and the next were to help the student understand the value of looking for his interestsand of learning to have a goal-oriented way of looking at the world.

10:30 - 11:30 a.m. Small group discussions were held. At this time, first the students learned how to tabulate the results of the interest test and then the students talked about the results of the interest test, how the results related to their interests, and in what areas they might explore further in order to find occupations with which they might be happy. The students answered written questions like: "What do you want to do five years from now?" and "What do you want to do ten years from now?" The student was made aware that he might possibly change his goal choices but that it was good to think in terms of future goals.

11:30 - 12:30 m. Lunch

12:30 - 2:00 p.m. In this time period the student learned about interviewing techniques. Each student pretended he was interviewing for a job in which he was interested while other students played the role of the interviewer. Each student played the interviewer and the job seeker at least once. These sessions were videotaped and the students discussed their performance and feedback was offered after they viewed themselves on the videotape. The objective of this session was to help the student develop his skills and confidence in interviewing techniques and to learn better to identify what an employer may look for during an interview.

2:00 - 3:30 p.m. While most of the students were looking at cassette filmstrip presentations of occupational clusters that interested them, the rest were given individual counseling in which they explored occupational possibilities in which they might be interested. Occupational Outlook Handbooks were relied upon heavily.

Second Day

9:00 - 2:30 m. The students visited Essex County Technical and Careers Center, Newark, New Jersey, in the morning and Essex County College, Newark, New Jersey, in the afternoon. In both schools the students talked with counselors and teachers. They were taken on extensive tours of each school.

The objective of these visits was to enable the student to explore and evaluate his potential and opportunities for higher education. Other objectives for this day included to participate in a college atmosphere, to talk with students on the campus, to familiarize a student with financial aid, admissions procedures, and other school activities. Also the students were able to discuss career questions with these schools' counselors.

Third Day

8:30 - 9:00 a.m. Social time with refreshments.

9:00 - 10:30 a.m. The student selected two occupational areas in which he was interested and viewed slide presentations on both of the areas. Then each student was given further individual counseling. The objective was to further acquaint the student with more occupational areas and what individuals do in each of these areas and to find a cluster area that interested him. Students were given sample applications to complete.

10:30 - 11:30 a.m. Further counseling was given here.

11:30 - 12:30 m. Lunch

12:30 - 2:30 p.m. The CAREER MATURITY INVENTORY (CMI) and FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE were administered. As a follow-up students were told that they would be counseled on the results of the CMI. Appointments for further counseling were made. (This follow-up was done after the tests were scored.)

Dependent Variable

The first two hypotheses were measured by comparing the scores of the experimental group with those of the control group on the CAREER MATURITY INVENTORY. As previously mentioned, the CMI contains two parts, (1) an attitude scale (50 true or false questions) and (2) a competence test (Parts 1 and 3 were used. They consisted of 40 multiple choice questions. There were 20 questions in Part 1 and 20 questions in Part 3.) (See Figure 1 for raw data.)

The third hypothesis was measured by having the students fill out the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE (as seen following in Figure 2).

PROCEDURES

Subjects for the experimental group and the control group were assigned at random and the experimental group was exposed to the independent variable on Tuesday, Wednesday and Thursday, and on Thursday the CMI and FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE were administered to the experimental and control groups. All students were promised and given further counseling on the results of their tests. The control group received no counseling until after they took the CMI. Also, a WORKSHOP SATISFACTION QUESTIONNAIRE (Figure 3) was given to the experimental group to discover whether they thought the workshops were satisfying.

Figure 1

The Raw Scores on the CMI, Grade, and Sex for Students in the Experimental and Control Groups

Pilot Study

Experimental Group

Student	Sex	Grade	Score Attitude Scale	Score Competence Scale Part 1	Part 3
1	F	12	37	17	17
2	M	12	35	10	12
3	M	12	40	11	10
4	M	12	37	14	13
5	F	11	41	5	9
6	F	12	35	5	19
7	F	12	33	10	13
8	M	12	40	14	—
9	F	12	30	12	14

Control Group

1	F	11	29	11	14
2	M	12	39	13	12
3	M	12	36	15	7
4	M	11	39	9	12
5	F	12	30	9	7
6	M	12	29	7	11
7	F	12	35	11	9

Note: In the experimental group seven students were black and two were white. In the control group five students were black and two were white.

Figure 2

FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

Directions: Please answer all of the following carefully.

1. Do you plan to go to college?

yes no (circle one)

2. How certain are you about going to college?

1	2	3	4
very certain	certain	uncertain	very uncertain

(Circle the number of the answer you think is most correct)

3. How certain are you about completing two years of college?

1	2	3	4
very certain	certain	uncertain	very uncertain

4. What occupation would you like to have for your life's work?

5. How certain are you about attaining this occupational goal?

1	2	3	4
very certain	certain	uncertain	very uncertain

6. What job do you expect to hold five years from now?

7. How certain are you about having this job in five years?

1	2	3	4
very certain	certain	uncertain	very uncertain

8. What job do you expect to have ten years from now?

9. How certain are you about having this job ten years from now?

1	2	3	4
very certain	certain	uncertain	very uncertain

Figure 3

WORKSHOP SATISFACTION QUESTIONNAIRE

Directions: Circle the number above the answer which you think is most correct.

1. I enjoyed the workshops.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

2. I learned much from the workshops.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

3. I believe the workshops helped me become more realistic about my goals.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

4. I believe the workshops helped me learn how to effectively attain my goals in life.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

5. I believe the workshops helped me clarify my goals in life.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

6. I believe similar workshops should be run for students next year.

1	2	3	4	5
agree	somewhat agree	unsure	somewhat disagree	disagree

7. I have talked to many people about the workshops.

1	2	3	4	5
agree	somewhat disagree	unsure	somewhat agree	agree

8. I am interested in further counseling on my abilities and goals.

1	2	3	4	5
disagree	somewhat disagree	unsure	somewhat agree	agree

9. I believe the workshops will help me become more motivated to do my high school work.

1	2	3	4	5
disagree	somewhat disagree	unsure	somewhat agree	agree

10. I would recommend these workshops to other students.

1	2	3	4	5
disagree	somewhat disagree	unsure	somewhat agree	agree

DATA ANALYSIS

The design was a "posttest-only control group design" (Tuckman, 1972, p. 106).

R X O_1

R O_2

Because the number of students turned out to be so small, it was impossible to rely on the data completely. With such a small N it is impossible to trust that randomization had eliminated pretest differences between the two groups. Instead of using a t-test to analyze the data, a Mann-Whitney U test was employed.

RESULTS

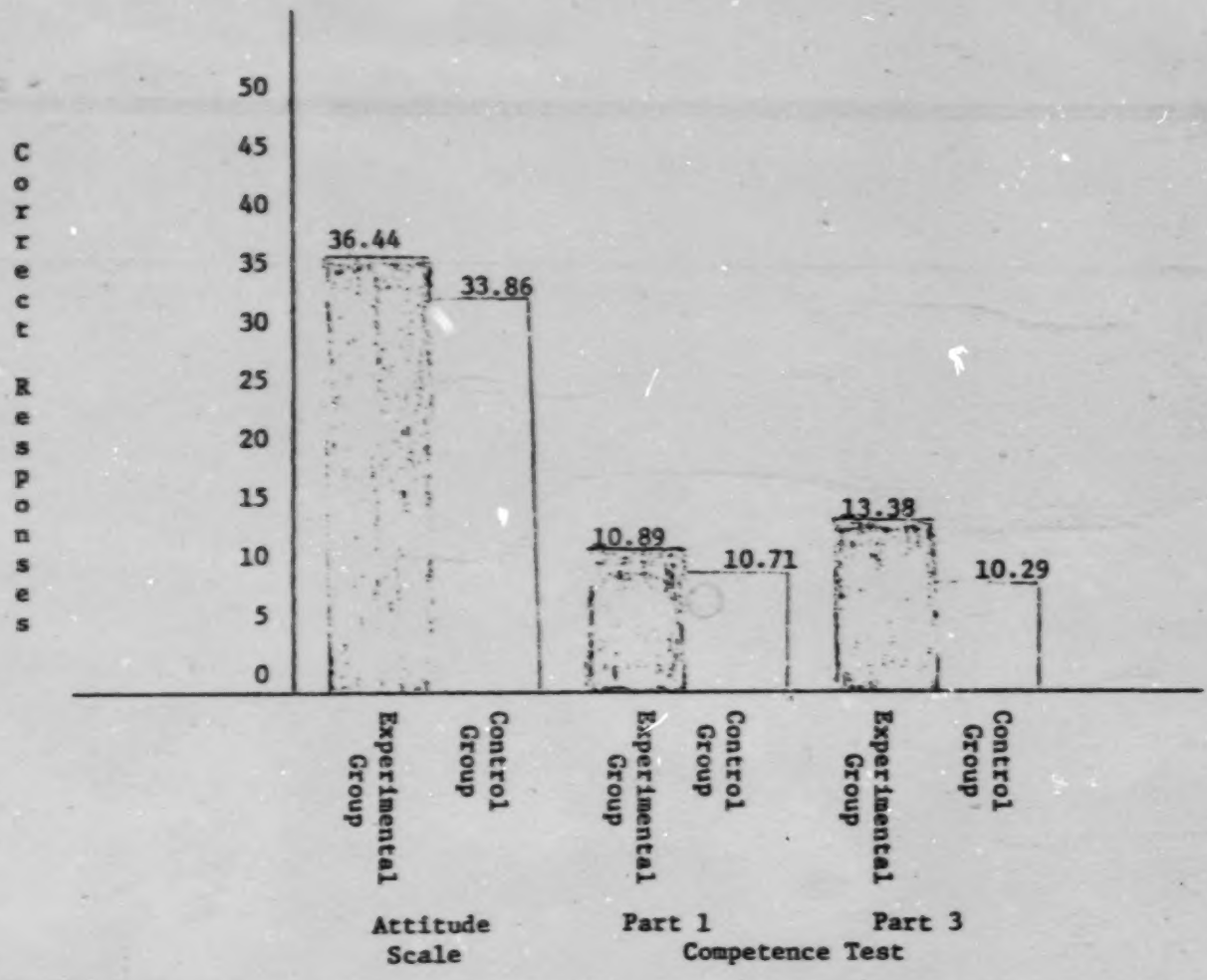
The mean scores for the students on the CMI are presented in Figure 4. (See Figure 1 for raw scores on CMI, grade and sex of students.) In comparing the data it will be noted that the mean score for the students in the experimental group was higher on the CMI than the control group's mean.

From the raw data it might be questioned whether the two groups were equivalent. However, upon examining the data it was noticed that the mean grade for the experimental group was 11.89 and the mean grade for the control group was 11.71. The ages were very close, and certainly not significantly different. Upon examining the files that record the students' grade point averages, it was noticed that both groups mean grade point average (GPA) was C-, with the control group scoring only slightly higher than the experimental group. The one fact that could severely bias the data is the fact that of the 9 students in the experimental group, 5 students were female, constituting 56%

Figure 4

Mean Scores for Students on the CMI

for the Pilot Study



Note: Highest possible score for the Attitude Score is 50.
Highest possible score for Part 1 and Part 3 is 20.

of the population. In the control group, 3 of the students were female which made up 43% of the population. Obviously there could be a bias because of sex differences if the CMI discriminates between the sexes. Concerning this however Crites stated that, "Differences between the sexes and schools were negligible." (1973, p. 13) It would seem therefore that there is no reason to believe that the differences between the groups before the counseling week were significantly different.

The information in Table 1 shows the results of the Mann-Whitney U test used to test significance between the experimental and control group. Even though the null hypothesis could not be rejected, it will be noticed that for the Attitude Scale and for part 1 of the Competence Test, results of the U test were not significant. However for part 3 of the Competence Test, the results approached significance. (The U score would have to have equalled 12 for significance; it failed by one).

Table 1

Results of the Mann-Whitney U Test

for the Pilot Study

Attitude Scale

Experimental Group	Control Group
U = 27	U = 29

For significance, U score must equal either 12 or less. Therefore this result was not significant. The null hypothesis could not be rejected.

Competence Test

Part 1

Experimental Group	Control Group
U = 34.5	U = 19.5

For significance one U must equal either 12 or less. Therefore, Part 1 results were not significant. The null hypothesis could not be rejected.

Part 3

Experimental Group	Control Group
U = 13	U = 43

For significance one U must be 12 or less. Therefore, Part 3 results were not significant. The null hypothesis could not be rejected.

Previously it was explained that counseling tends to increase a student's certainty about his future goals (Healy, 1974, pp. 146-151). The information in Figure 5 shows the results of the students' answers to each question on the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE. (Appendix A shows raw results.) A Fisher Exact Test (Siegel, 1956, pp. 96-104) was conducted on the data. (Appendix B records the results of the test.) In no case were the results of the Fisher Exact Test significant. Therefore the null hypothesis could not be rejected. An examination of the data, however, reveals that results on questions 2, 5, 7, and 9 of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE were very close to being significant. Statistically combining the results on the individual items of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE to get an overall certainty score reveals that the student overall certainty was significantly increased. See Table 2 for results. In this case the null hypothesis was rejected.

Table 2

Combined Results of the Students' Responses on the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

	Above Median	Below Median	
Experimental Group	7	2	9
Control Group	1	6	7
	8	8	16

Fisher Exact Test significant to .025 level. The null hypothesis was rejected.

The results of the WORKSHOP SATISFACTION QUESTIONNAIRE strongly indicate that the subjects believed that they learned much from the workshops and that they felt the workshops were beneficial in helping clarify their goals and that the workshops should be recommended for others. (For a complete breakdown of data, see Appendix C.)

Figure 5

Percentage of students' responses to questions on the
FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

Figure 5a

Question 1: Do you plan to go to college?

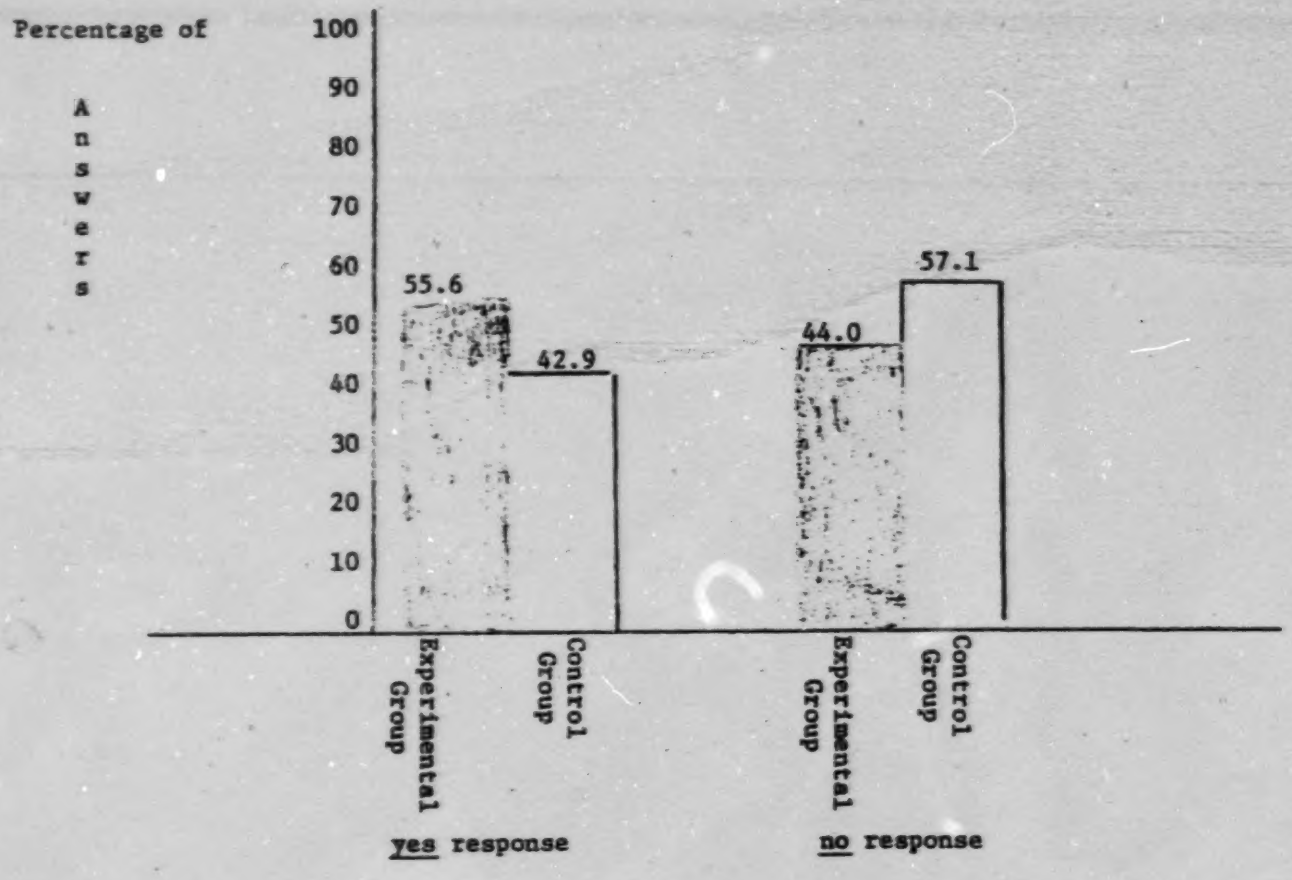
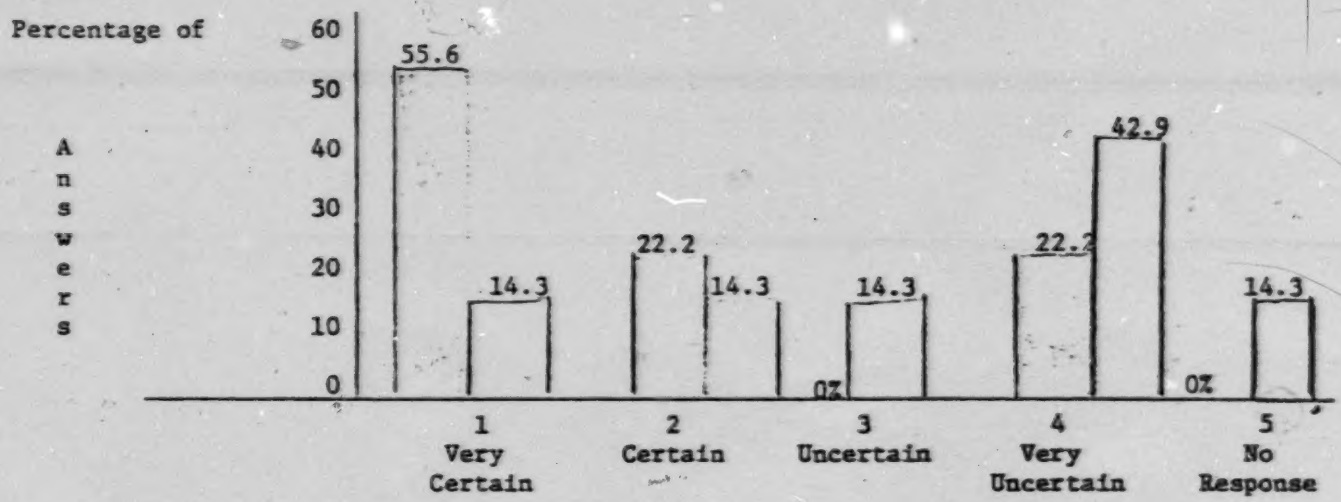


Figure 5b

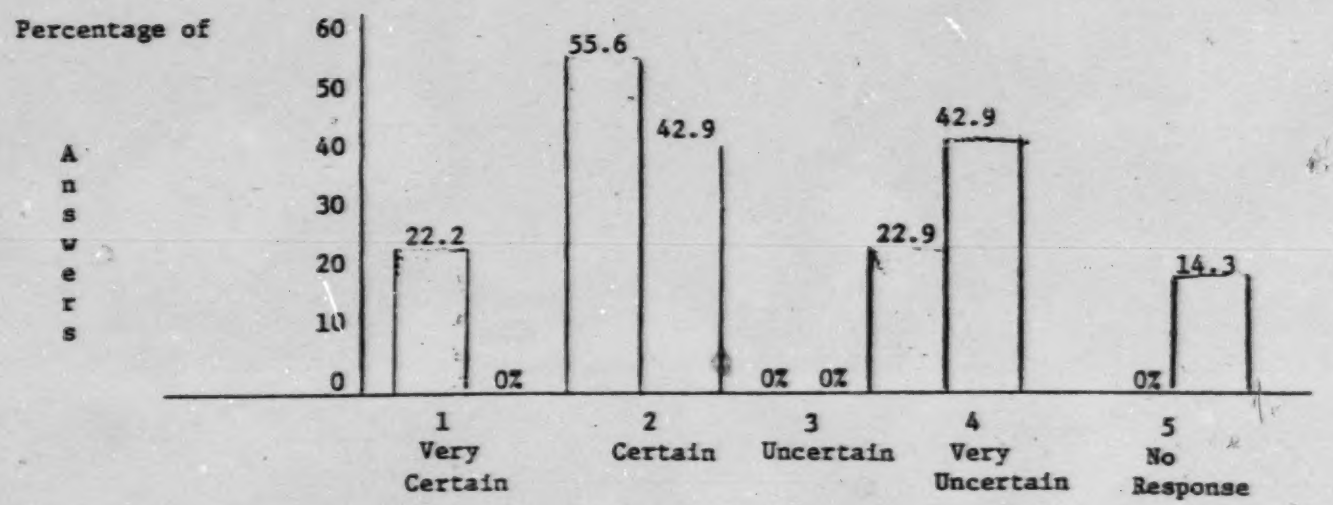
Question 2: How certain are you about going to college?



Note: Percentages for the experimental group are graphed first. Percentages for the control group are graphed second. Graphed percentages only go up to 60% on Tables 3b-3f as no response was greater than 55.6%.

Figure 5c

Question 3: How certain are you about completing two years of college?



Note: Percentages for experimental group are graphed first and shaded.

Figure 5d

Question 5: How certain are you about attaining (the above stated) occupational goal?

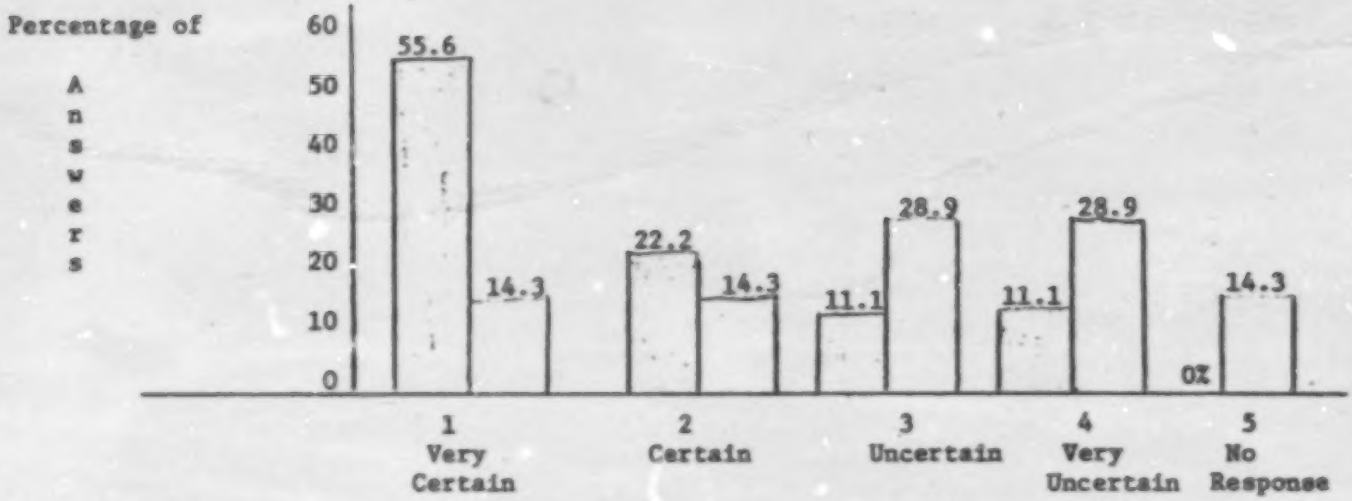
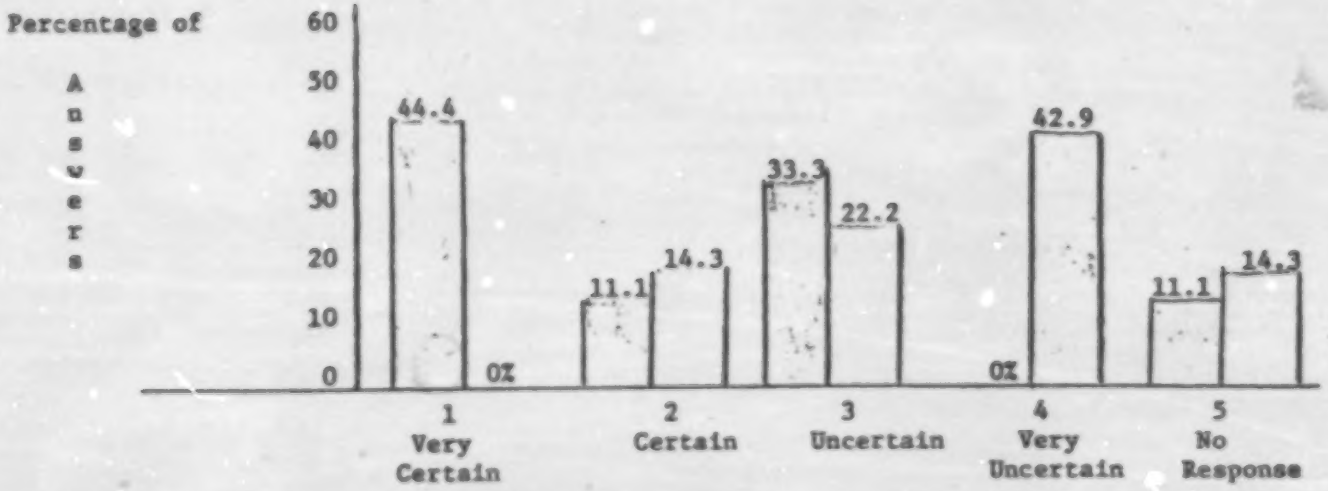


Figure 5e

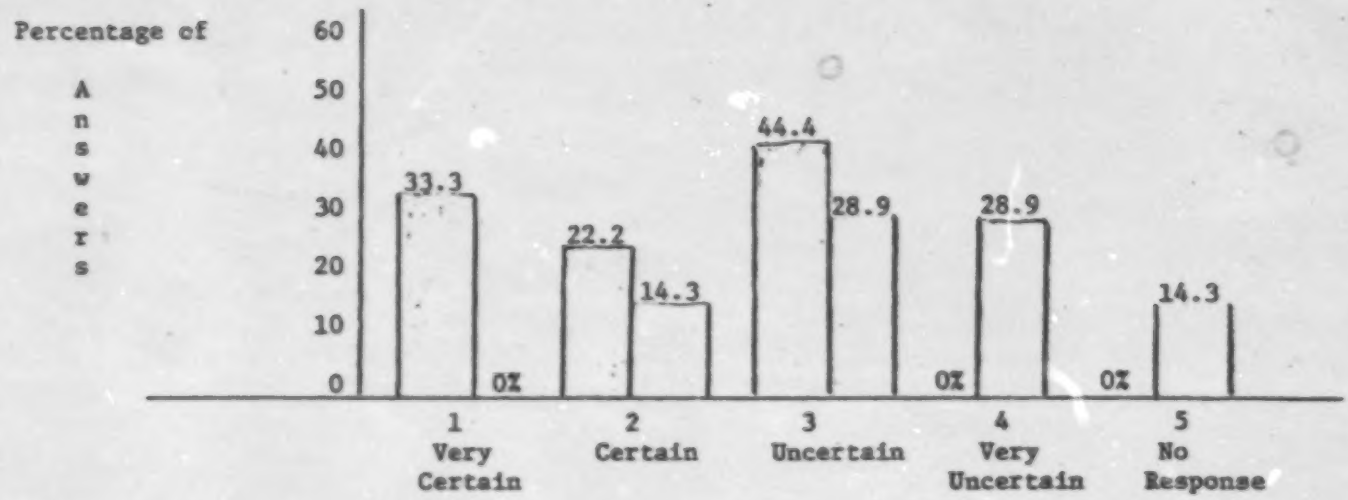
Question 7: How certain are you about having (the above stated) job in five years?



Note: Percentages for experimental group are graphed first and shaded.

Figure 5f

Question 9: How certain are you about having (the above stated) job in ten years from now?



Note: Percentages for the experimental group are graphed first and shaded. Percentages fo the control group are graphed second.

EXPERIMENT

METHOD

Subjects

Henceforth we will refer to the previous study as the Pilot study and to this experiment as the Experiment.

It was intended that the students in the Experiment be recruited in like manner to those in the Pilot study. It was discovered, however, that because of the school rule that said students must have every teacher sign a permission slip before they would be allowed to take part in the experiment, it would be impossible to allow enough students to participate. Often a low achieving student arrives at school each day but then skips (or cuts) numerous classes during the day and many times he may go to a given class only once or twice a year. When the low achieving student is given a request to have teachers sign a paper that releases him from a class he is already skipping, the student is reluctant to face that teacher because he has missed so many classes. Many low achieving students reason, "Why should I ask permission to be released from a class that I am already missing? I have been asked to take part in this career counseling so I will just show up on the day of the counseling." Enough students did show up on the day of the counseling but, as was reported previously, they were turned away.

Because problems like these were seen as pitfalls in the pilot study, alternative ways of getting low achieving subjects were discussed with various administrators, teachers and personnel at the school. It was noted that the power mechanics classes in Montclair High School consisted almost entirely of low achieving students and that the power mechanics teachers said they would

be willing to allow their six classes to be used for the Experiment. This was accepted as a possibility.

However, working with intact classes could certainly introduce many experimental biases. This problem was discussed with the counselors and administrators and they related that there was strong evidence for the belief that the students in the six power mechanics classes were randomly assigned to the classes. The counelsors who assigned them to the classes did so on no other basis than that they were low achieving and also that this course (i.e. its meeting times) could be fitted into their schedule along with their other classes. This statement could not be taken completely at face value; therefore, the names, ages, grade level, and grade point averages were compiled for each power mechanics class and the means for each class were compared with the means for the other classes. Matched groups were prepared between classes that were the closest in their means. (Actually all classes were almost identical in mean age, grade level and grade point average and all of the subjects were male except for two females in two separate classes.) See Table 3.

Table 3

Mean age, Grade and Grade Point Average of students in the experimental and control groups in the Experiment

	Experimental Groups				Control Groups		
	Age	Grade	GPA		Age	Grade	GPA
1	17.1	10.41	C	1	17.4	10.51	C
2	17.2	10.46	C	2	17.0	10.45	C
3	16.8	10.48	C	3	17.3	10.57	C

After the matched groups were prepared, three groups were selected with a table

of random numbers and their matching pair was used for the control group. As it turned out the experimental and control groups were interspersed throughout the day and the two females were evenly divided, one in the experimental group and one in the control group.

Limitations of Study

Obviously it would have been better to have given the subjects a pretest to prove that the groups were evenly matched but this was impossible for two reasons. (1) The tests that had been ordered many weeks before had been delayed and the allotted time that was set aside for the experiment was running short. (2) The school was having extreme fiscal problems and it could only allow one day for the buses that would carry students to the Community College and the Technical School. Therefore it was mandatory to have the students in the pilot study and the students in the power mechanics class to go on the field trip at the same time. In other words it was necessary that the counseling had to start with the power mechanics students before the tests arrived. (They finally did arrive two days before the exams were to be given to the students in the pilot study.)

These reasons help to explain how the subjects were chosen for the Experiment.

In the three experimental group classes, there were 55 low achieving students registered for the course. Of these an average of 27 students came to class. (As was noted previously, low achievers have a high absentee rate.) The control group had 57 low achieving students registered for it and of that number the average attendance at the start of the experiment was 26 students. Of those students that did attend classes, most were regular attenders. In both groups, 40 percent of the subjects were Black. Of the total of 112 students that were registered for the power mechanics classes, all were in grades 10-12. (There was, however, one ninth grader in the control group.)

Independent Variable

Presented below are the activities that took place during the 33 days that the counselor (or experimenter) was in the classroom with the students.

1. A group discussion was held with the students on the importance of having goals and being goal-oriented. It was impressed upon the student that he must plan for his future and think about what he would be interested in as a career. The counselor during this discussion explained that his purpose for coming to the class would be to give each student career counseling. He told the students that he would be available to help them understand careers, and explore with them careers that they might like to pursue. Also the counselor said he would help the student find effective strategies for attaining a career cluster that one might choose. This took the whole first 45 minute class session for each of the experimental groups.

2. Each student was given the Curtis Interest Scale (Curtis, 1964). This Scale is a short, 50 item test which the student can easily take and score in half an hour. For the remainder of this class period, the student wrote down 10 things he would like to do in the future (both vocational and avocational.) This took one class session of 45 minutes.

3. After examining all of the interest tests, it was found that most of the students scored very highly on mechanical interest on the Interest Scale. It was therefore decided to show the students filmstrips with accompanying cassette presentations that emphasized careers in the field of mechanical work. Some filmstrips were on mechanical engineering and another presented the duties of an automobile and diesel mechanic. A group discussion ensued. (45 minutes.)

4. Videotaped interview workshops were conducted. In these workshops the students sat on a panel that represented the prospective employer. Each student had his turn at playing the prospective employee. The students then watched themselves

on the videotape and discussed what they did right and what they did wrong. They responded very well to this approach. (45 minutes.)

5. Students went on an all day trip to Essex County Technical and Careers Center (in the morning), and Essex County College (in the afternoon). On this trip the students learned what each institution had to offer them and in turn what each institution would require of them if they wanted to go there. The students sat in on classes, asked questions and among other things, discussed ways in which they could afford the money for further education. This was certainly another activity that the students enjoyed very much. (This trip took 7 hours.)

6. During the remaining classes the counselor called upon each student individually and reviewed with him the results of the interest test and the list of activities that the student had written. While this was all individual counseling, much of the time other students gathered around to listen as their friend obtained counseling. Many students learned about other occupations from watching another getting counseled.

During the counseling, the counselor tried to create a relaxed and open atmosphere between himself and the counselee. The Curtis Interest Scale was used as one way to stimulate discussions with the student. After going over the interest test with the student to see how accurate the student thought it was, the student was then presented with a copy of the Occupational Outlook Handbook and asked to select at least three occupations that he would like to talk about with the counselor. Each student was then asked if he would like to read the material for himself or have it read to them. (Many elected to have it read to them by the counselor.) The counselor discussed each occupation with the student and the student was encouraged to send away to obtain more information

about the careers that most interested him. In no way was any student discouraged from looking at any occupation. The student was told that since career decisions were decisions that he would have to live with, the decision was left entirely to him. The student was however encouraged to examine a variety of careers which he might pursue.

The students enjoyed this individual counseling very much; the counselor found that when he finished counseling one student, another was waiting to ask to be counseled. The experimenter counseled each student at least twice during the remainder of the days. Several Occupational Outlook Handbooks were made available to the students to refer to at any time. Each student made good use of the handbooks. While an individual was being counseled, the remainder of the students were working on their class work for the power mechanics class.

Dependent Variable

As in the pilot study, at the end of the counseling each student took the CAREER MATURITY INVENTORY. The Attitude Scale (a measure of hypothesis 1) was given on the first day (45 minutes) and the Competence Test (a measure of hypothesis 2) was given on the second day (45 minutes). The control gorup was also given the tests on the same days in the same manner.

The FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE (a measure of hypothesis 3) was given at the end of the second day of testing. (See Figure 2 for questionnaire test.)

PROCEDURES

The results of the CMI and the questionnaires (Figures 2 and 3) were compiled after the month and a half of counseling.

One last point should be explained here. Seven subjects in the power mechanics class were not low achieving (they all had above a C plus average. Three were in the experimental group and four in the control group). In the procedure it was decided that it would be unwise to discriminate against them so they were treated like any other class members (given counseling and given the posttests.) However their test scores were not included in the final data because they could bias the results adversely.

DATA ANALYSIS

The design for this study is similar to the "nonequivalent control group design" (Tuckman, 1972, pp. 117-120).

$$O_1 \quad X \quad O_2$$

$$O_3 \qquad O_4$$

As was explained before, the CMI was delayed for several weeks. This circumstance was beyond the experimenter's control. It certainly would have been better to give the CMI to both the experimental and control groups before the experimental group was given the treatment. This however, was impossible because the allotted school time that was allowed to the experimenter was being used rapidly, and for the students in the Experiment to take the field trip it was mandatory to start the counseling before the tests could arrive in the mail. Therefore, instead of a pretest the experimenter made many preobservations and compared the groups grade point averages, grades, and ages and found them to be almost identical. Paired gropus were prepared and the pairs were randomly selected (three in the experimental group and three in the control group.) It is believed that this procedure eliminated any systematic biases in the Experiment and contributes to the internal validity of the Experiment.

RESULTS

A test of significance was run between the experimental and control groups on the CMI. (See Table 4 and Figure 6 for results.) It can be seen from Tables 4a-4c that the students' scores on the Attitude Scale failed to confirm hypothesis a. The null hypothesis therefore could not be rejected.

However parts 1 and 3 of the Competence Test were in the predicted direction and a t test for part 3 revealed a significance of .10 (at 47 degrees of freedom). (Raw Scores are found in Appendix D.) The null hypothesis could therefore not be rejected for part 1 and it was rejected at the .10 level for part 3.

An analysis was done of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE. Figure 7 and Appendix E record these results.) Generally the results on this questionnaire were in the direction hypothesized. (See Appendix F for the chi squares on the data.) Three questionnaires were not handed in by the experimental group, thus making the total number of responses 29.

Table 4

Results of Experimental and Control Groups of the

Experiment on the CAREER MATURITY INVENTORY

Table 4a

Results of Students on the Attitude Scale

Experimental Group		Control Group	
N_1	= 32	N_2	= 19
$\leq X_1$	=1061	$\leq X_2$	=637
$\leq X_1^2$	=36345	$\leq X_2^2$	=22191
$\bar{X}_1$	=33.16	$\bar{X}^2$	=33.53

No t test was run because the data was in the reverse direction from that hypothesized. The null hypothesis was not rejected.

Table 4b

Results of Students on Part 1 of the

Competence Test

Experimental Group		Control Group	
N_1	= 31	N_2	= 19
ΣX_1	= 321	ΣX_2	= 185
ΣX_1^2	= 3909	ΣX_2^2	= 2417
X_1	= 10.70	$\bar{X}$	= 9.74

t = .209 not significant at 48 degrees of freedom. The null hypothesis was not rejected.

Table 4c

Results of Students on Part 3 of the

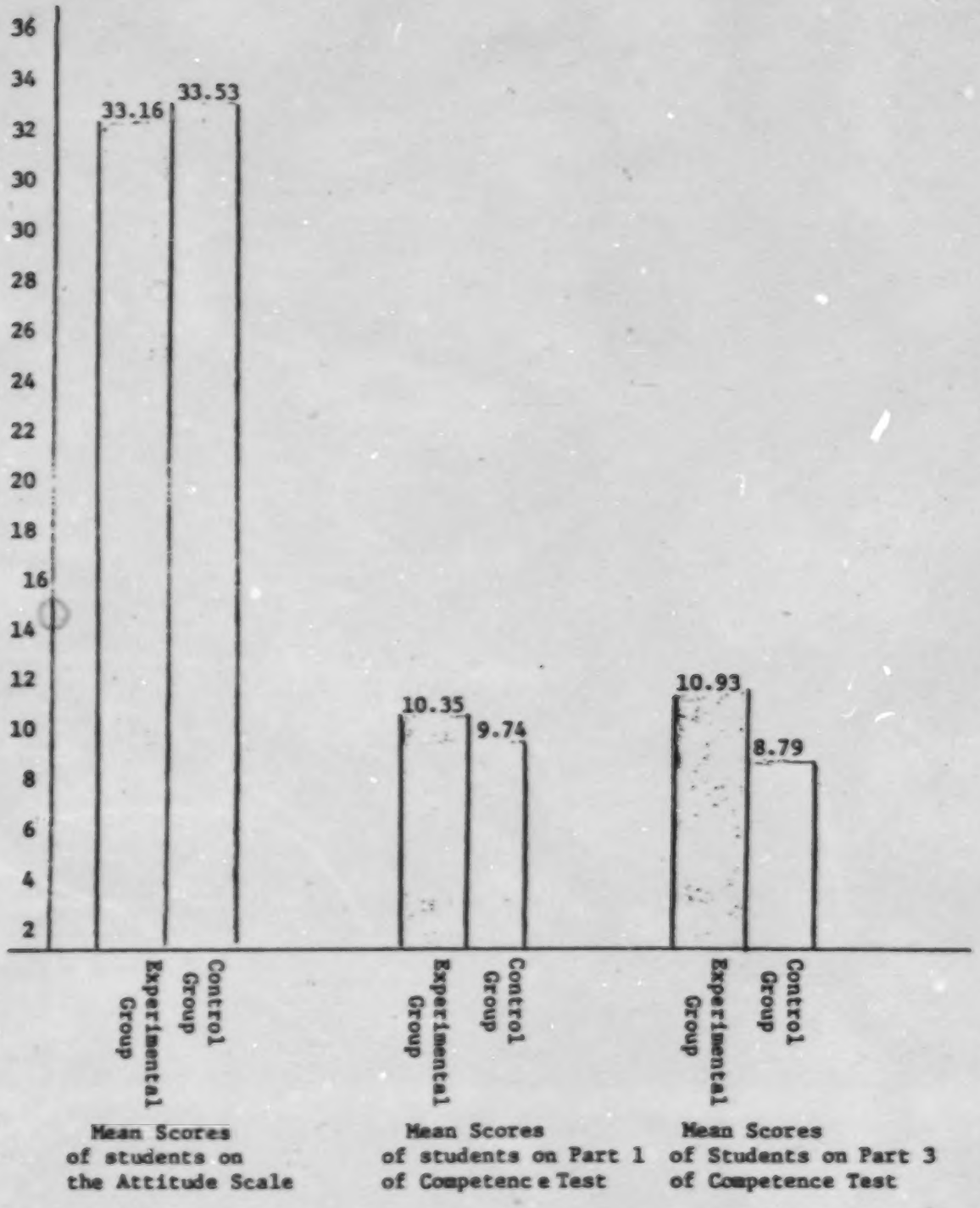
Competence Test

Experimental Group		Control Group	
N	= 30	N_2	= 19
ΣX	= 328	ΣX_2	= 167
ΣX^2	= 3954	ΣX_2^2	= 2031
$\bar{X}$	= 10.93	$\bar{X}$	= 8.79

t = 1.65 significant at the .10 level at 47 degrees of freedom; not significant at .05 level. The null hypothesis was rejected at the .10 level.

Figure 6

Mean Scores for Students on the CMI



(See Appendix D for the grade and individual raw score on the CMI for each student.)

Figure 7

Percentage of Responses of Students in Experiment to Questions on the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

Figure 7a

Question 1: Do you plan to go to college?

Chi square = 1.84 significant to the .10 level at one degree of freedom

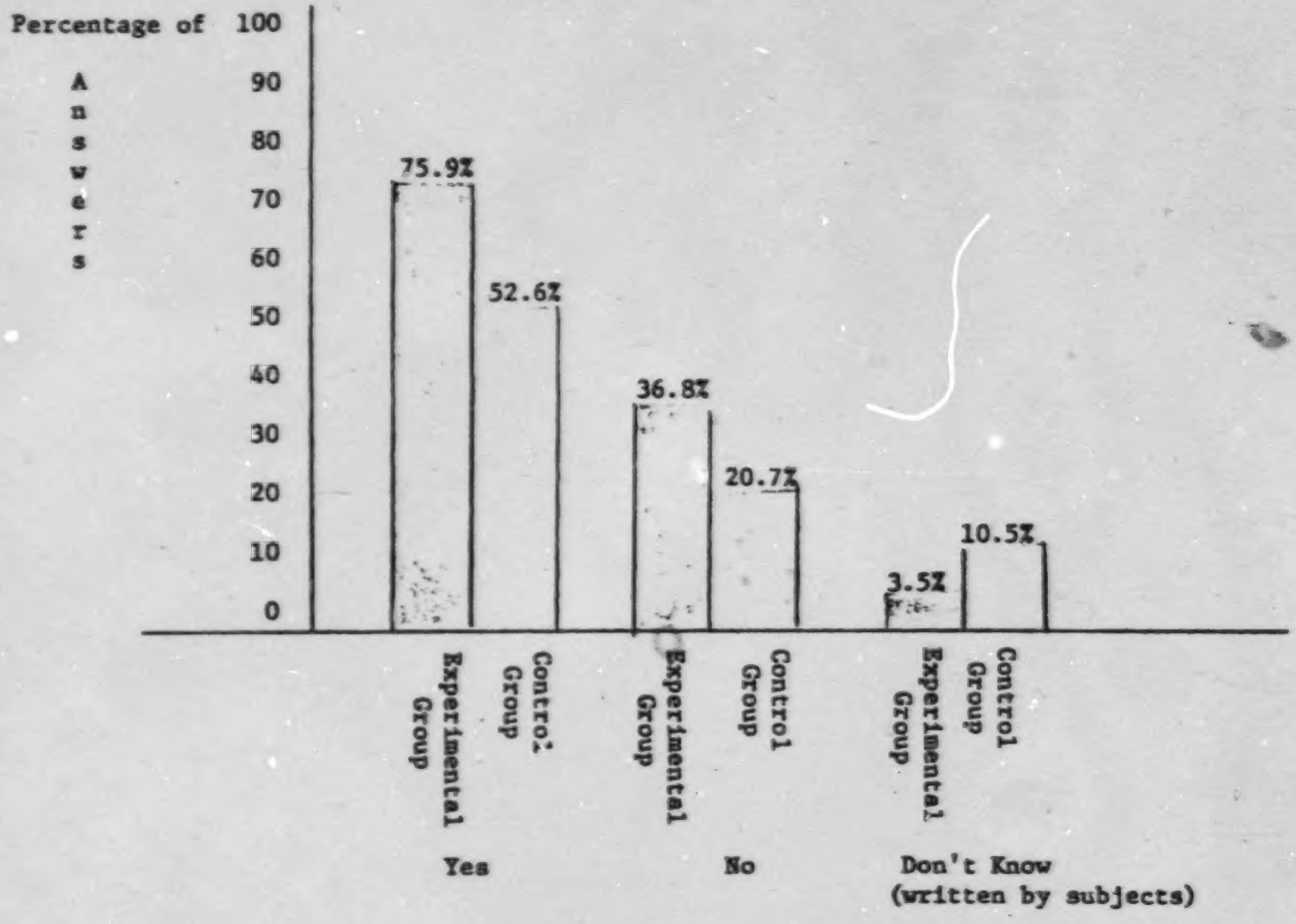
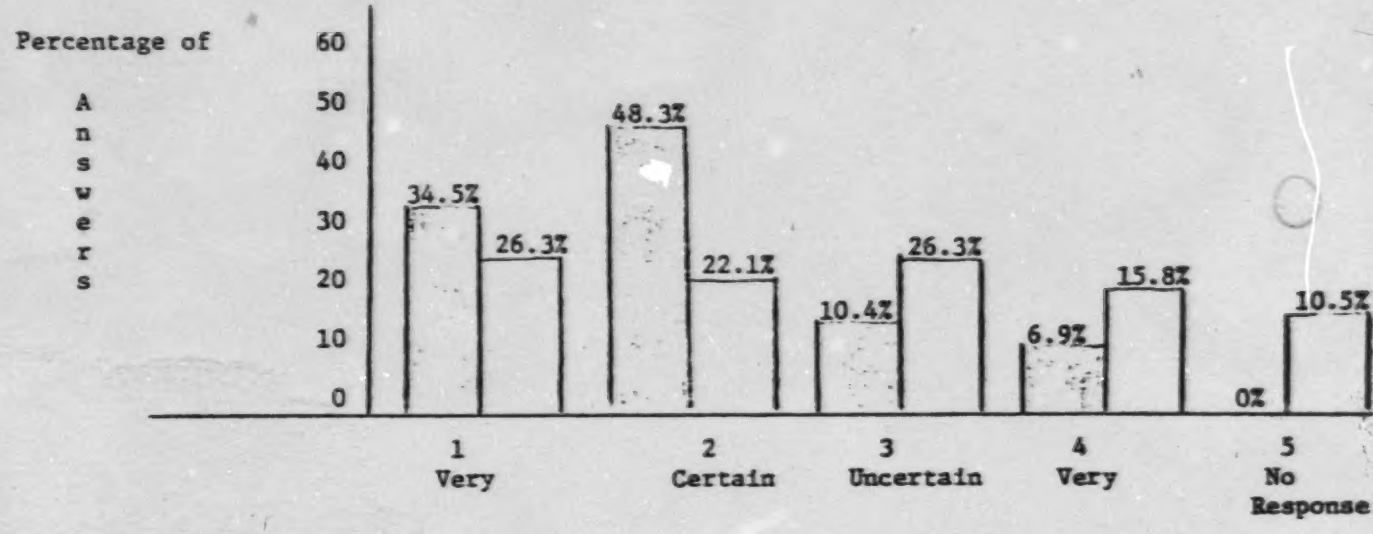


Figure 7b

Question 2: How certain are you about going to college?

Chi square = 5.15 significant above the .025 level at 1 degree of freedom



Note: Percentages for the experimental group graphed first.
Percentages for the control group graphed second.

Figure 7c

Question 3: How certain are you about completing two years of college?

Chi square = 2.1 significant above .10 level for 1 degree of freedom

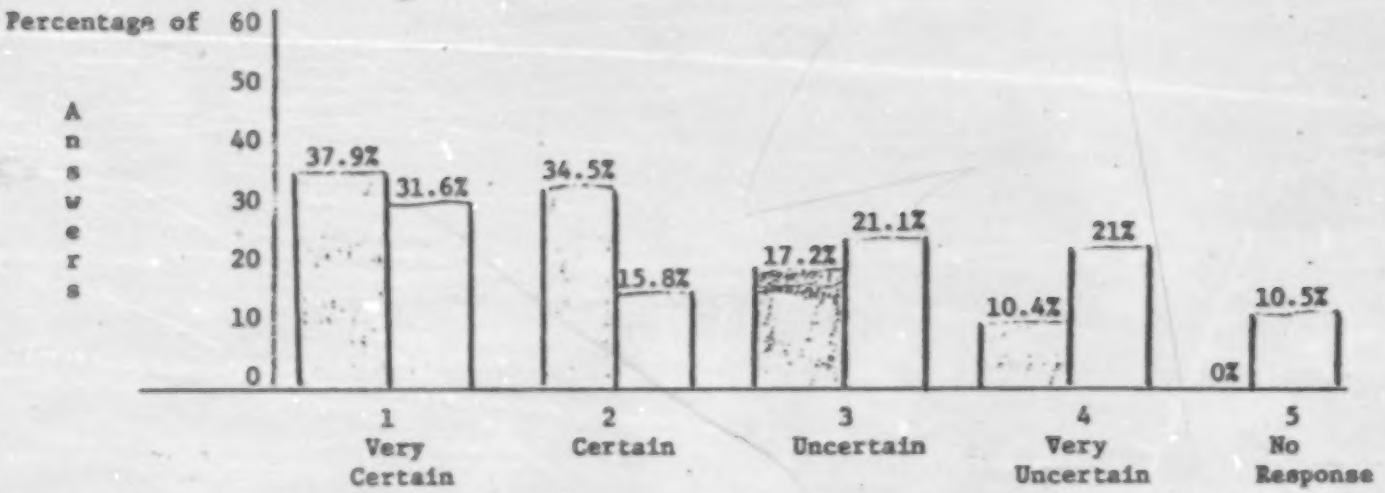
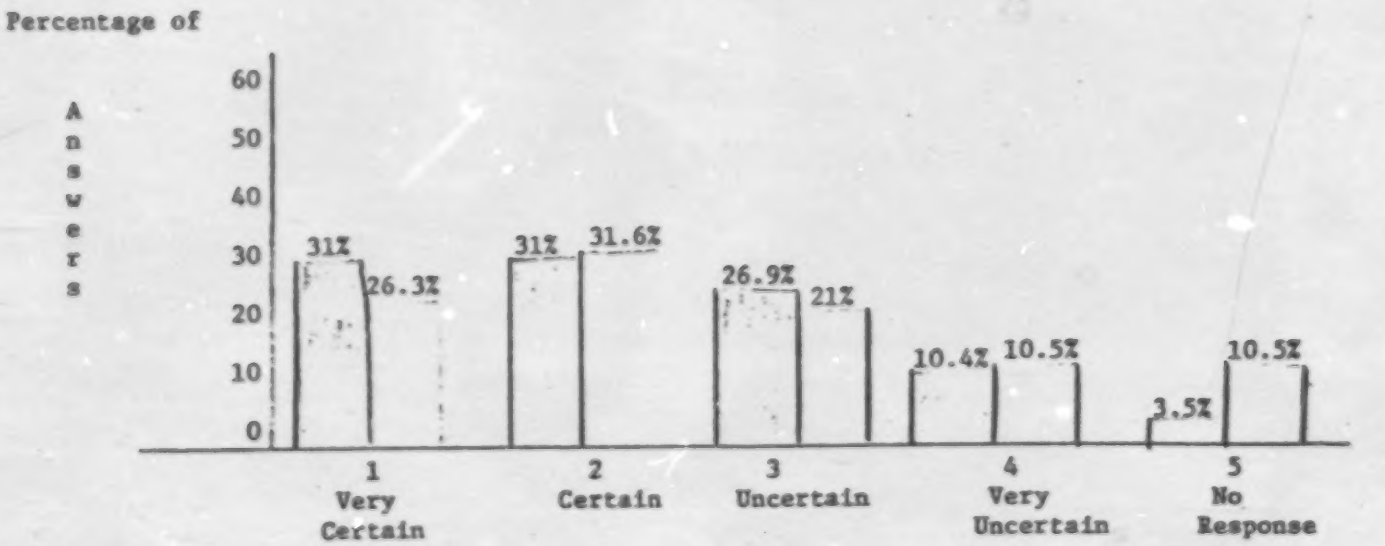


Figure 7d

Question 5: How certain are you about attaining (your stated) occupational goal?

Chi square = .00016 not significant at 1 degree of freedom.



Note: Percentages for the experimental group are graphed first. Percentages for the control group are graphed second.

Figure 7e

Question 7: How certain are you about having (your stated) job in five years?

Chi square = 1.16 not significant
at 1 degree of freedom

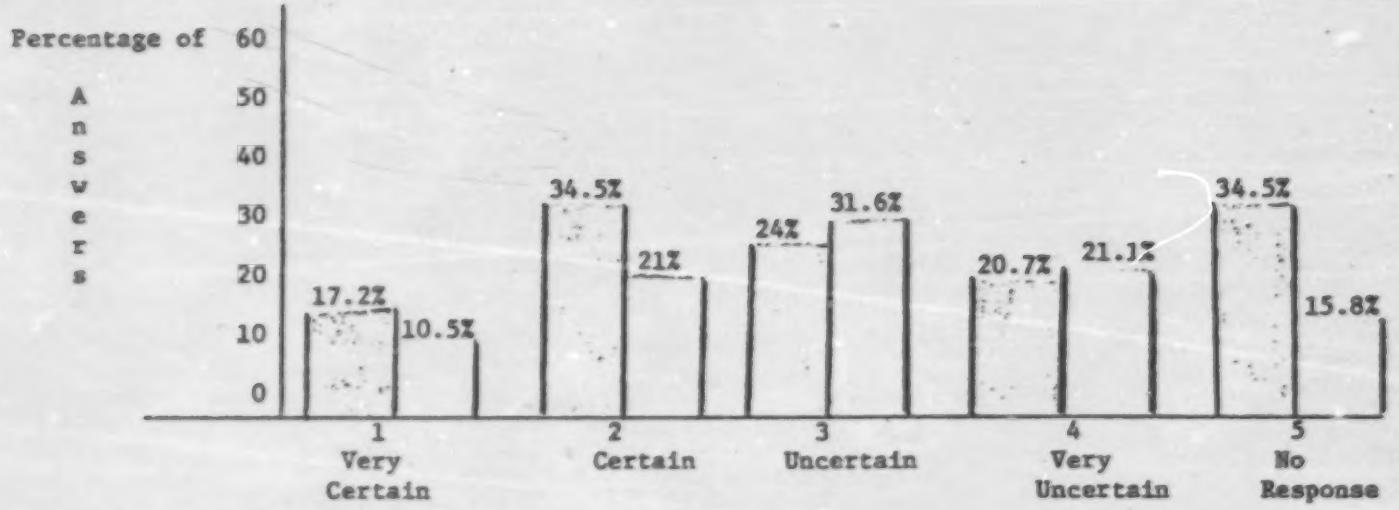
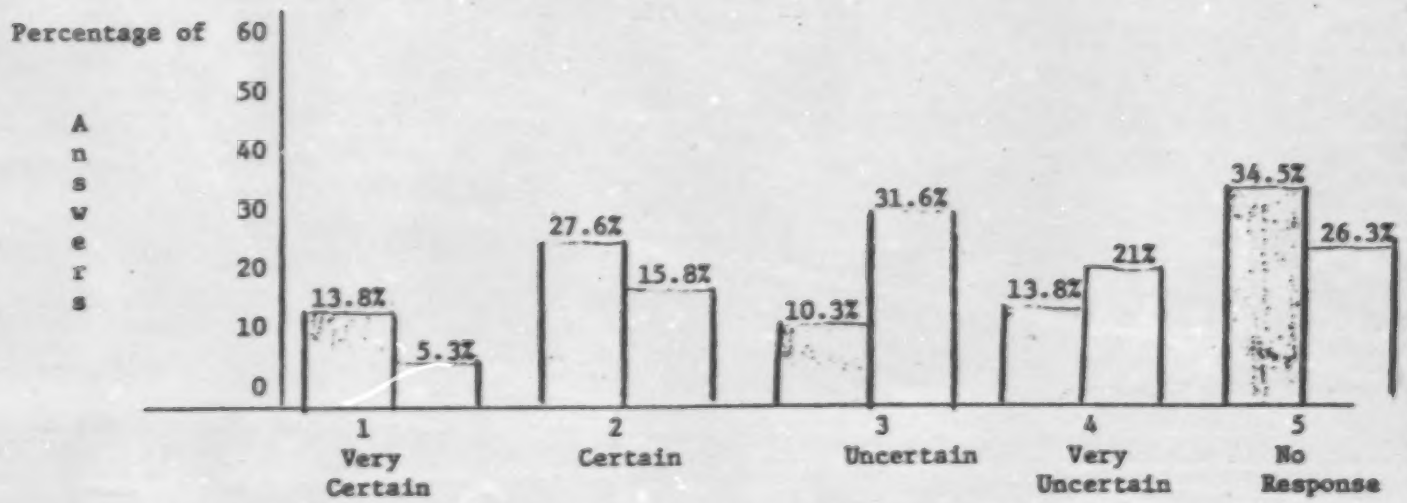


Figure 7f

Question 9: How certain are you about having (your stated) job ten years from now?

Chi square = 1.32 not significant
at 1 degree of freedom



Note: Percentages for the experimental group are graphed first.
Percentages for the control group are graphed second.

It can be seen from examining the data on the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE that the counseled students planned to go to college more often than the noncounseled students (Chi Square equals 1.84 significant at the .10 level). Also these students reported that they were significantly more certain about going to college (significant at the .025 level) than the noncounseled. It was found that they were also more certain about completing two years of college (.10 level). On the following question (How certain are you about attaining this occupational goal?), it was interesting that as the students tried to look into their own futures there was no significantly greater certainty in the experimental than in the control groups. It seems therefore that hypothesis 3 has received some mixed support. On this questionnaire the total scores were compared statistically revealing a significantly higher certainty (Chi square equals 2.09 significant to .10 level at 1 d.f.) for the experimental group (see Table 5 for results.)

Table 5

Total Score on FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

	Above Median	Below Median	
Experimental Group	15	14	29
Control Group	5	14	19
	20	28	48

X^2 = 2.09 significant to .10 level at 1 degrees of freedom. The null hypothesis was rejected.

On the WORKSHOP SATISFACTION QUESTIONNAIRE even though the students were nonvolunteers, the students in the experimental group almost all agreed that the workshops had been helpful to them, that they would like further counseling and that they would recommend the workshops to other students. Results of the experimental group subjects on the WORKSHOP SATISFACTION QUESTIONNAIRE are seen in Figure 8. (Appendix G records raw data.)

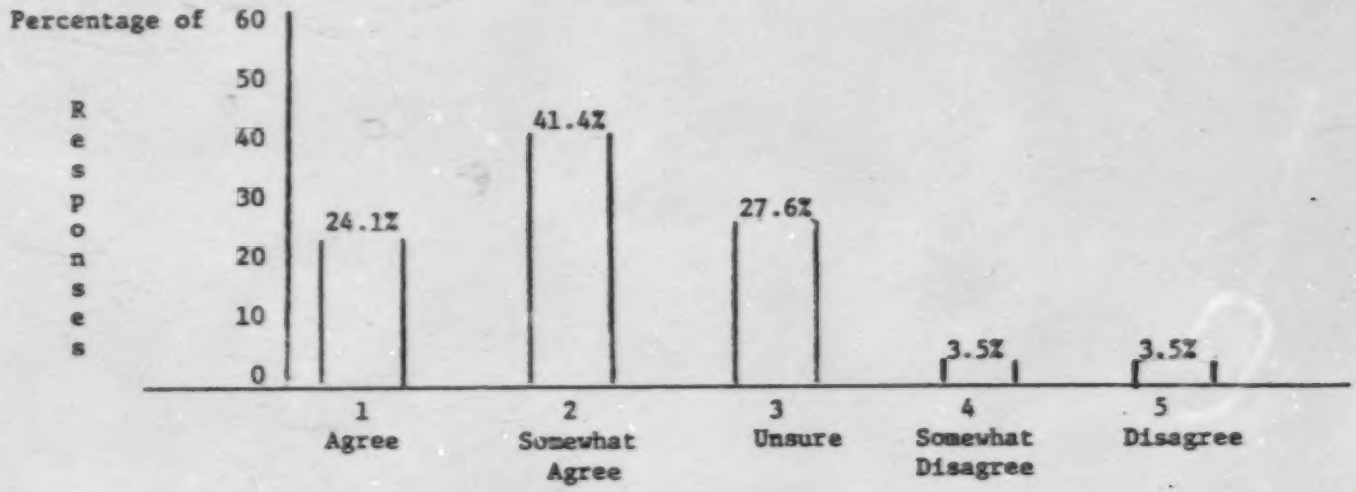
Figure 8

Results of Experimental Group on the

WORKSHOP SATISFACTION QUESTIONNAIRE in the Experiment

(See Appendix G for raw data.)

Statement 1: I enjoyed the workshops.



Statement 2: I learned much from the workshops.

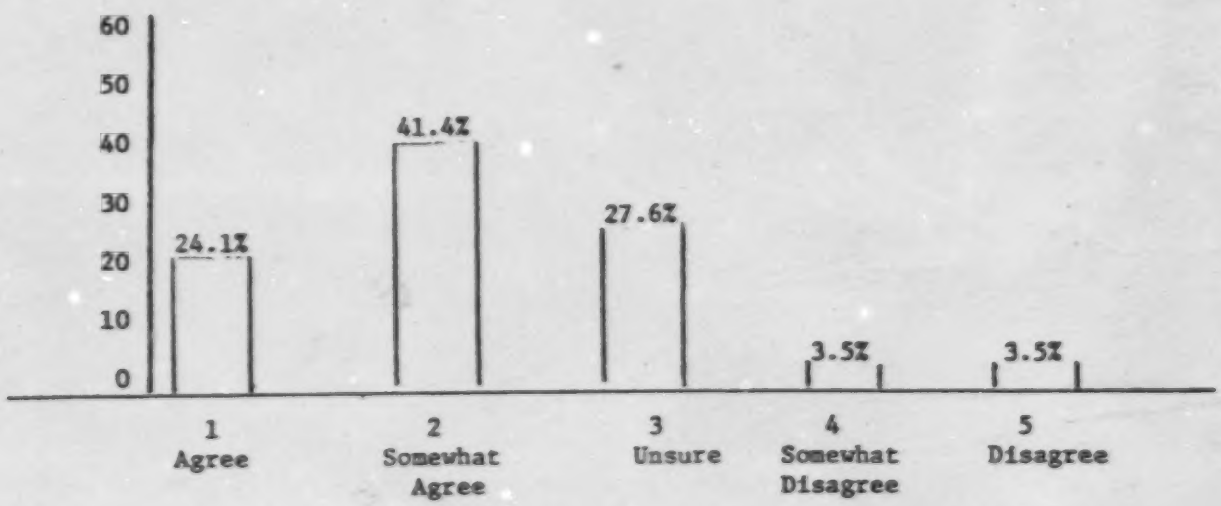
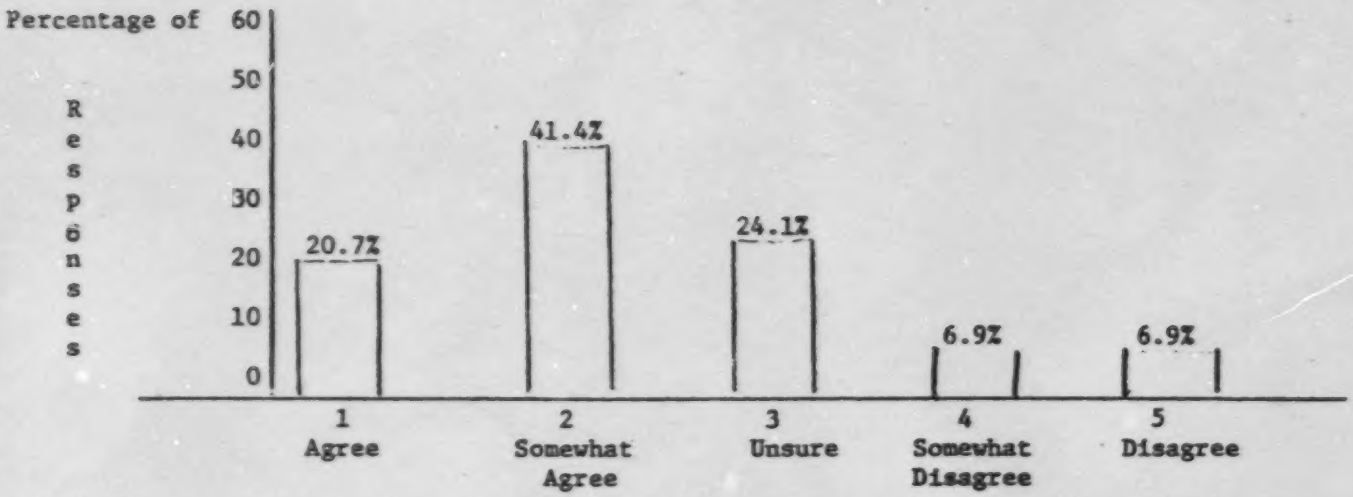


Figure 8 (cont'd.)

Statement 3: I believe the workshops helped me become more realistic about my goals.



Statement 4: I believe the workshops helped me learn how to effectively attain my goals in life.

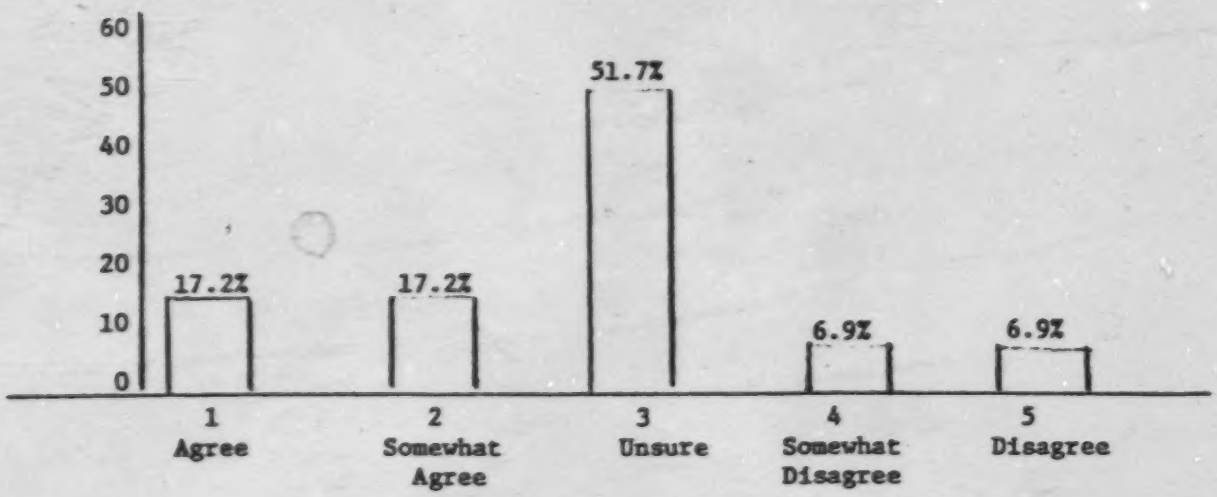
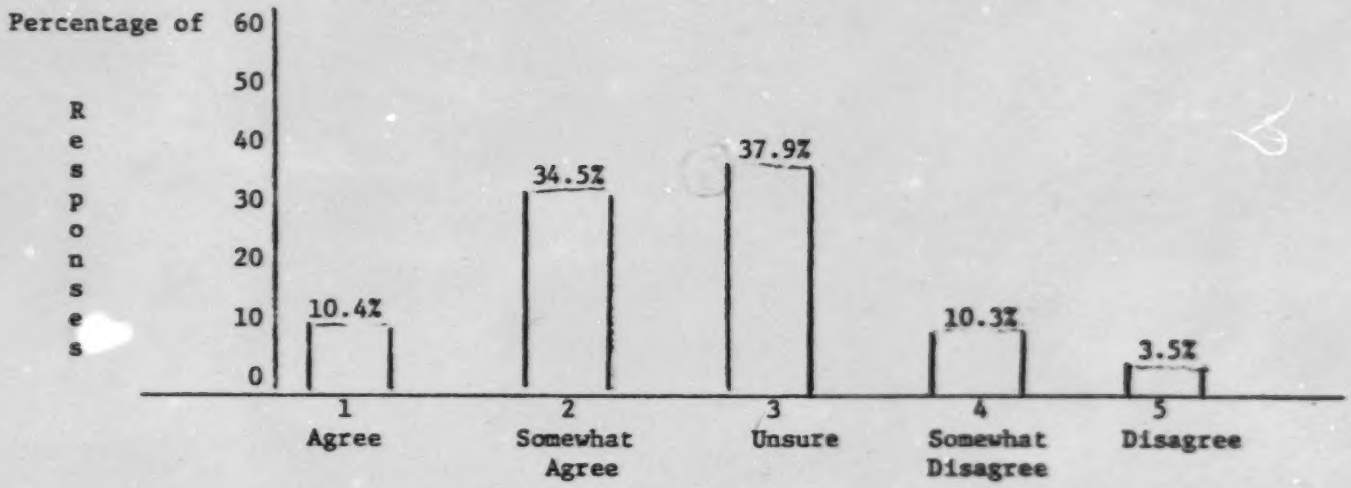


Figure 8 (cont'd.)

Statement 5: I believe the workshops helped me clarify my goals in life.



Statement 6: I believe similar workshops should be run for students next year.

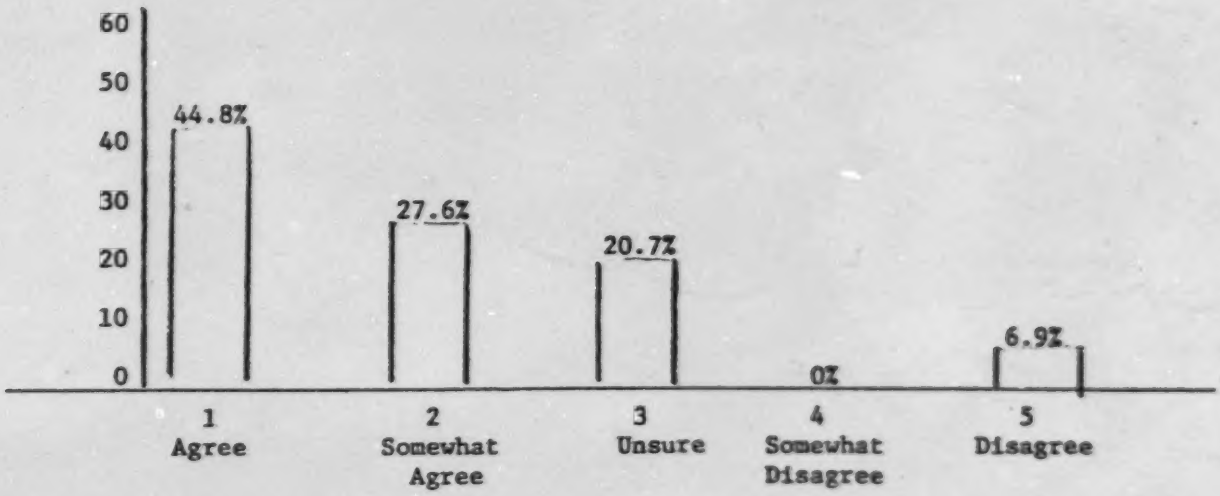
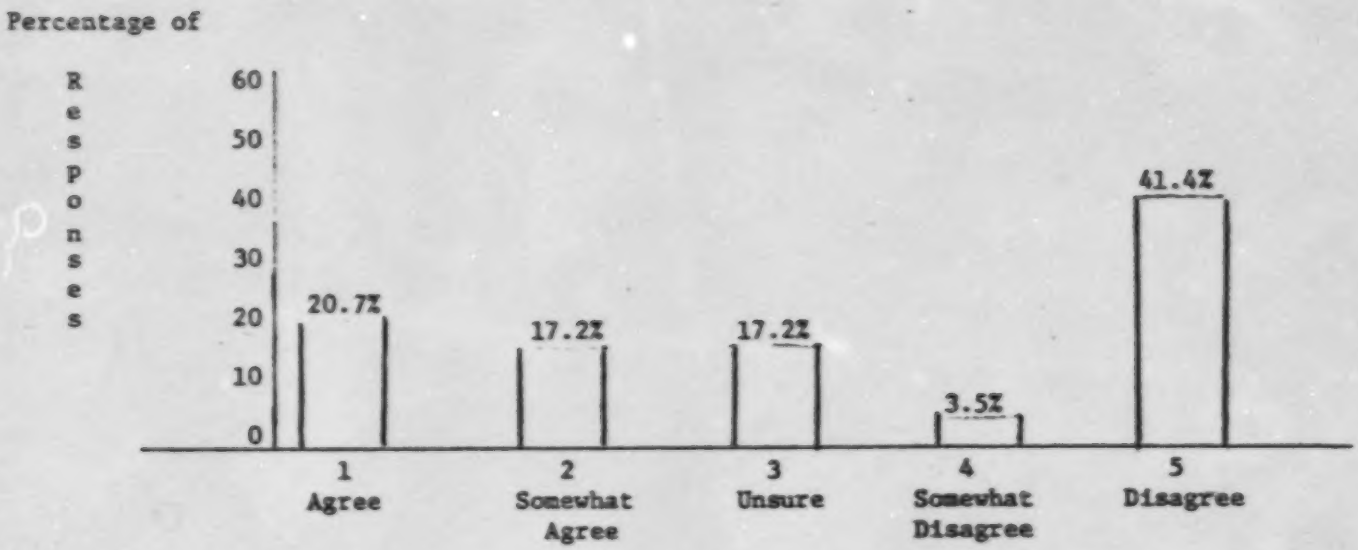


Figure 8 (cont'd.)

Statement 7: I have talked to many people about the workshops.



Statement 8: I am interested in further counseling on my abilities and goals.

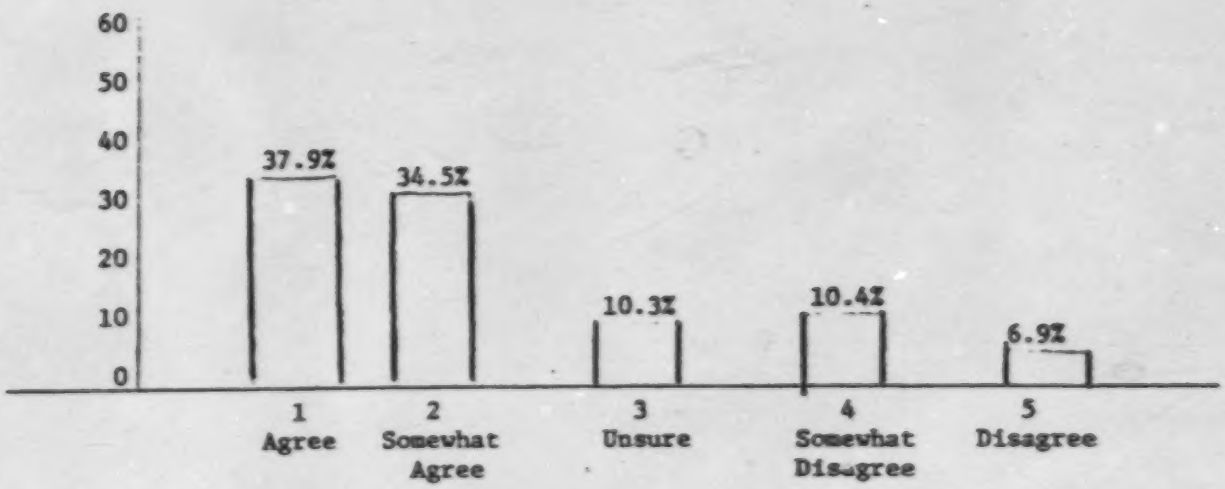
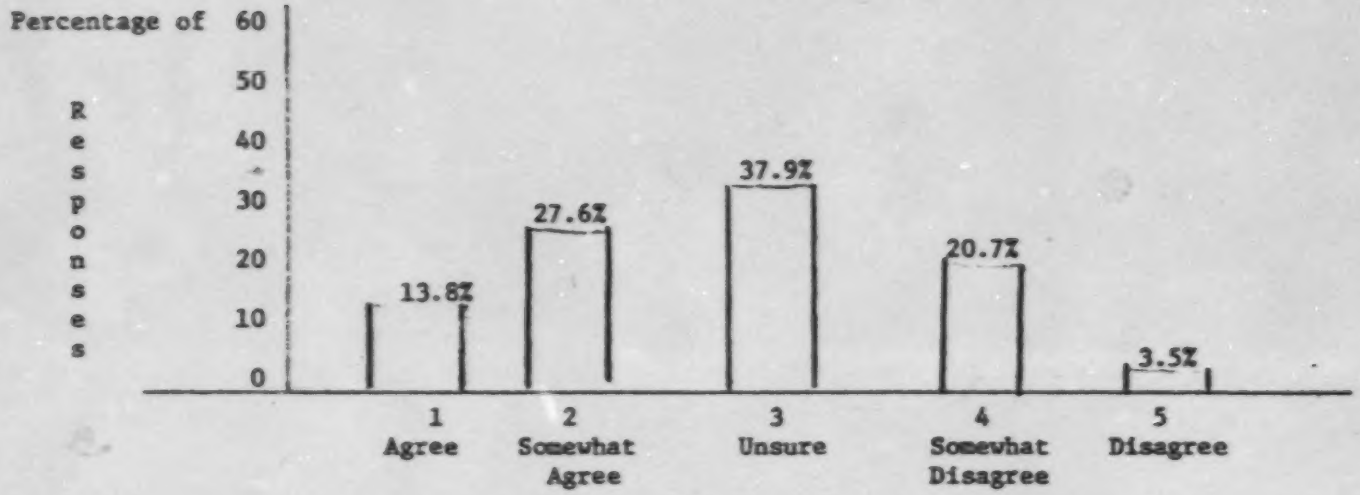
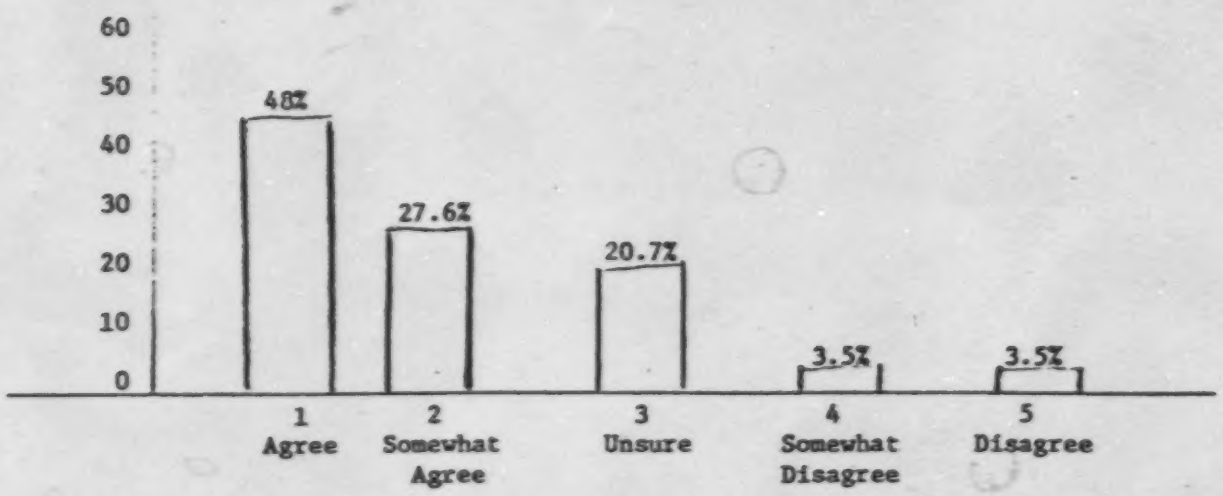


Figure 8 (cont'd.)

Statement 9: I believe the workshops will help me become more motivated to do my high school work.



Statement 10: I would recommend these workshops to other students.



Finally, one other unexpected finding must be presented because this finding seems to indicate very important results of career counseling. As explained before, the absentee rates of low achieving students is usually very high. That is one of the reasons why experimenters often disparage in studying the low achiever. The serendipitous finding that was made in this study was that as the weeks passed, the attendance of the students involved in the experiment generally increased while the attendance of the control subjects decreased. It is interesting to note that during the sixth week of counseling (a week before the CMI was given) the attendance of the experimental group was 33% higher than the control group. There was one point during the beginning of counseling where the experimental group was 36% higher than the control group. (Refer to Figure 9)

The attendance results for the week before counseling, the first week after counseling, after six weeks of counseling, and the sixth week after counseling were analyzed by chi square and are shown in Table 6.

Table 6

Attendance figures for the Experiment

A comparison of the number of students present and absent in the experimental and control groups, just before and after counseling.

1. During first week before counseling started.

	Present	Absent	
Experimental Group	27	28	55
Control Group	26	31	57
	53	59	112

X^2 = .015 not significant at 1 degree of freedom. The null hypothesis was not rejected.

Table 6 (cont'd.)

2. During first week of counseling.

	Present	Absent	
Experimental Group	34	21	55
Control Group	25	32	57
	59	53	112

X^2 = 2.94 significant at .05 level at 1 degree of freedom. The null hypothesis was rejected.

3. During sixth week of counseling.

	Present	Absent	
Experimental Group	32	23	55
Control Group	24	33	57
	56	56	112

X^2 = 2.29 significant at .10 level at 1 degree of freedom. The null hypothesis was rejected.

4. During sixth week after counseling was completed.

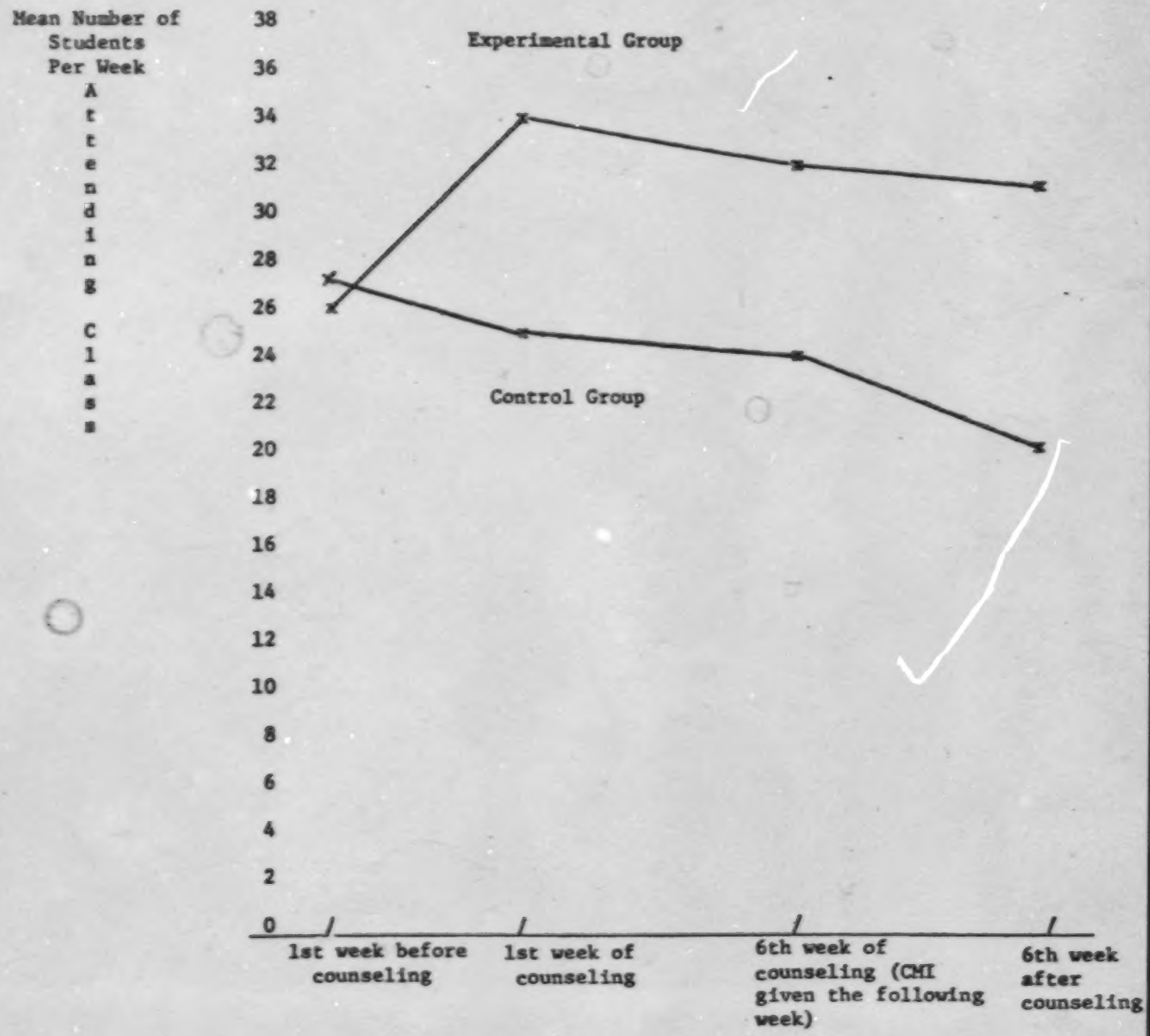
	Present	Absent	
Experimental Group	31	24	55
Control Group	20	37	57
	51	61	112

X^2 = 3.00 significant at .05 level at 1 degree of freedom. The null hypothesis was rejected.

Note: Mean attendance was rounded off to the nearest whole number. Also note that in <u>every</u> case after counseling started the attendance of the experimental group was significantly superior to the control group.

Figure 9

Attendance Data for Low Achieving Students During the Counseling



4 students from the Control Group and 3 from the Experimental Group were eliminated from this data because they weren't low achievers. These 7 students had above a C average)

DISCUSSION

Even though the results of the pilot study were not significant, and the null hypothesis could not be rejected, experimental group's scores on the Attitude Scale in the Pilot Study did attain a definitely higher mean level than did the control group's. The findings corresponded in direction to those of Asbury (1967), Bovee (1967), and Gilliland (1966). The results on the Competence Test were also in the hypothesized direction though, here also, the null hypothesis could not be rejected. Again an analysis of each individual question on the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE was not significant. It is interesting to note however that in most cases the results approached significance and were always in the predicted direction.

The Pilot Study, however, included a small number of students, far too small to give the findings strong validity. By combining the scores on this study the results were easily significant indicating that the students' overall certainty was definitely increased. (See Table 2) The null hypothesis, in this case, was rejected. It seemed therefore, that the career counseling the students received did increase their career maturity and their certainty in planning for the future. It might be speculated that if the number of students were larger and the counseling were a few days longer, the career certainty (on each question) and maturity might have been increased to a significant level. It was clear from the Pilot Study that the students were extremely interested in what they did in the workshops and most (87.5%) agreed or somewhat agreed that they would like to have further counseling about their abilities and goals (I am interested in further counseling on my abilities and goals, question 8.) On that same question, no one said they would not like to get further counseling. For low achieving students who freely tell how they hate school and anything associated with school this is a good finding.

The results of the WORKSHOP SATISFACTION QUESTIONNAIRE overwhelmingly indicated that students enjoyed the workshops (88.0%), learned much from the workshops (87.5%), that the workshops should be run again next year for other students (87.5%), and that they would recommend the workshops to other students (87.5%). This is gratifying coming from low achievers who usually have difficulty sitting still in class for 45 minutes and who generally wander through the halls with their friends much of the day.

One noticeable thing about these students was that they "speak their minds." Generally most teachers have said that if the students were given an anonymous questionnaire, it is likely that they will be honest in answering it, and that the low achieving students are likely to be more honest because they are the most disillusioned. To illustrate this point, a student questionnaire was given to the students at the high school for the Middle States Evaluation. One of the questions on the questionnaire was, "Would you go to your guidance counselor regarding a personal problem?" A whopping 70% of the twelfth graders (of which most of the students in the Pilot Study were a sample) said NO. This finding illustrates the point that when the twelfth graders disagree with something, they are willing to say what they believe.

The findings in the Experiment itself were revealing. From an examination of the mean scores on the Attitude Scale one might first conclude that career counseling reduced students' scores. The mean for the experimental group was 33.16 and the control group was 33.53. This finding is puzzling until a check is made for response bias. As was explained previously, the Attitude Scale of the CMI is a true false scale in which seven of the answers are correct when marked true while the remaining 43 questions are correct when marked false. Even though Crites (1973, p. 17) discounts the possibility of a response bias or response set, it was wondered whether response bias might be a factor that

would explain why the experimental group did more poorly on the CMI than the control group. Brown (1965) says,

> Response sets to agree or disagree first appeared as sources of error in personality inventories but we have to come to realize that they are also personality characteristics in their own right; they may be characteristics of greater interest than most of those that the inventories were designed to measure, (p. 513)

Couch and Keniston (1960) did an extensive study with a large variety of inventories; they found that certain individuals tended to have responses biases in which they were more likely to agree with positively worded statements and others tended to have response biases in which they were more likely to disagree with positively worded statements. They labeled those that tended to agree "Yeasayers" and those that tended to disagree "Naysayers." They found these traits to agree or disagree quite distinct in many individuals. (pp. 151-174)

No studies could be found indicating whether low achieving students have tendencies toward "Yeasaying" or "Naysaying." Such a study would be very interesting to do. It might be guessed, however,that low achieving students have tendencies toward "Naysaying." This guess might be proposed because low achieving students do not like to be told what to do and they often were found arguing with the teachers about directions that the teacher gave them. It was noted that low achieving students often disagreed openly with statements that teachers or counselors made. It might therefore be further proposed that low achieving students would have a tendency to disagree with the positively worded statements on the CMI. As with the experimental group, before counseling started many of the students were resistant to the idea of being counseled, in other words there was much "Naysaying." However, as counseling continued, they responded more and more positively to the counseling and it is believed that

because of their increased cooperativeness they tended more toward "Yeasaying." When the time came to take the CMI, the students from the experimental group were very cooperative while the control group students resisted taking the inventory. Several of the control group subjects literally said, "No, I do not want to take it!" The teacher from the power mechanics class had to force many of the control subjects to take the CMI. In fact, four students in the control group refused to take the CMI under any circumstances and had to be dropped from the analysis.

At first it would appear that the increased cooperativeness of the experimental subjects would enhance their scores on the CMI. However, it is believed that the very attitude of the student toward the CMI affected the way each group of students responded to the true or false questions on the Attitude Scale. It is speculated that the negative attitude of the control subjects might have led to a negative response bids on the CMI. In other words, the control subjects were more likely to answer "false" to the Attitude Scale and therefore get more answers correct because they had a negative response set while the experimental group more was more likely to answer "true" because they had a more positive response set.

It is believed that if the true or false questions were distributed more equally, the student results on the Attitude Scale would have been different (with the experimental group outscoring the control group). This is believed because the differences in scores between the experimental and control groups are much greater on the Competence Test, which used multiple choice questions. On the Attitude Scale however, there are only seven answers that are correct when marked true while the rest (43) are keyed correct when marked false. These seven true answers were tabulated for the experimental and control groups,

and there was a difference between the means. The experimental group had a mean of 5.63 correct and the control group a mean of 5.19. Even though the difference did not prove significant (t = .305) it did indicate that response bias cannot be completely ruled out. If the control students reflected their general hostility by responding as "Naysayers,"that is, by overresponding with the "false" choice, their overall scores on the Attitude Scale would have been artifactually elevated, leading one to accept their level of career maturity as higher than it was and leading one to erroneously conclude that the treatment did not produce a significant improvement in career maturity.

As previously noted, four subjects in the control group refused to take the test. By examining their grade point averages, it was shown that these students were near the bottom of the GPA distribution (D average). Also three of these students were tenth graders and one was an eleventh grader (making them lower than the average age and grade level of the sample). This could be another reason why the Attitude Scale was lower for the experimental group. The four did not take the CMI were extremely poor readers and a test such as the CMI probably threatened their reading skills enough so that they would not take it. This tended to bias the data in the direction of the control group, because if the four dropouts had taken the test, their results probably would have lowered the means of the control group on each section of the CMI. If they had taken the test, the Attitude Scale for the experimental group could certainly have been superior to the control groups' score.

Also as observed in the results, the experimental group picked up many new students who wanted counseling. (Refer to Figure 9.) These students' grades were also reviewed and it was found that their GPA was lower than the average of the experimental group. It would seem that allowing them to take the CMI

would tend to bias the mean downward. Even though these new students were poor readers, they were eager to take the CMI and prodded through it the best way they could. If their scores would tend to lower the average score of the experimental group this would cause the results to be less significant. This idea was tested in the following manner. The attendance in the four classes was checked for the two weeks preceding the first week of counseling. Eighteen low achieving subjects in the experimental group and 18 subjects in the control group were found to be regular attenders (they attended 9 out of 10 days) of their power mechanics class. These regular attenders were generally in attendance throughout most of the counseling period and all of them took the CMI and answered the questionnaires. These students are designated in the data with an "ra" (for regular attenders) next to their number. (See Appendix D.)

Examining the data indicated that regular attenders in the two conditions had almost identical mean grades (middle C), and were also much closer in mean grade and age level than the population that took the CMI. Results for the regular attenders on the Attitude Scale are shown in Table 7.

Table 7

Results of the Regular Attenders on the Attitude Scale of the CMI

N_1	18	N_2	18
ΣX	= 636	ΣX_2	601
ΣX^2	= 22846	ΣX_2	= 20895
$\bar{X}$	35.33	$\bar{X}$	= 33.39

t = .975 To be significant at 34 degrees of freedom t must equal 1.300, not significant. The null hypothesis was not rejected.

It can be seen from Table 7 that mean score differences on the Attitude Scale favor regular attenders in the experimental group even though they are not

significant. This indicates that career counseling can possibly help improve a person's career maturity, provided that the counseling activity is participated in. Of course these data are also susceptible to the response bias discussed earlier.

The information in Table 8 shows the results for the 36 regular attenders on the Competence Test, parts 1 and 3.

Table 8

Results of Regular Attenders on Part 1 and Part 3 of the Competence Test of the CMI

Part 1		Part 3	
N_1 = 18	N_2 = 18	N_1 = 18	N_2 = 18
ΣX_1 = 200	ΣX_2 = 173	ΣX_1 = 210	ΣX_2 = 157
ΣX^2 = 2496	ΣX_2^2 = 2273	ΣX_1^2 = 2746	ΣX_2^2 = 1931
$\bar{X}^1$ = 11.11	$\bar{X}_2$ = 9.61	$\bar{X}_1$ = 11.67	$\bar{X}_2$ = 8.72
t = 1.77 significant of .05 at 34 degrees of freedom. The null hypothesis was rejected.		t = 1.76 significant at .05 level at 34 degrees of freedom. The null hypothesis was rejected.	

Examination of the scores of the regular attenders from each group on the Competence Test shows significant differences in favor of experimentals, providing some support for hypothesis 2. In this case the null hypothesis was rejected at the .05 level.

Recalling the data from the Experiment, it was already stated that differences on part 1 of the Competence Test were not significant (t = .209, df =48).

The data were in the right direction even though the average grade level for the experimental group (10.53) is higher than the control group (9.74). On Part 3 of the Competence Test an even more significant finding was obtained ($t = 1.65$, $df = 4$, p .06.) These data lend support to hypothesis b as did the data on regular attenders.

Upon examining the data for the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE we find that for every question the results were in the hypothesized direction and in three cases (questions 1, 2, and 3), the results were significant at least at the .10 level. Therefore the null hypothesis was rejected. It is interesting to note that even though college was not emphasized in the counseling session, after attending the Community College, many of the students started to talk about the possibility of going to the Community College sometime in the future. Also in both studies and combined scores indicate that the students' overall future certainty was significantly increased.

It was easy to see from the students' behavior in class that they were becoming more informed and more confident about the world around them and especially about the world of work. Many of the students revealed that this was one of the first times that anyone had ever seriously tried to help them plan their future. Many previously unmotivated students who indicated no future plans before the Experiment eagerly searched the halls of the Community College and talked about attending the school after they had improved their reading abilities. When it was pointed out that certain given skills or reading levels were needed for the career in which the student was interested, many students started to take a renewed interest in their school subjects. Here it will be noticed what common sense might tell us about the future and it is that we are often more confident about the near future than we are about the distant future. This is shown by the decreasing level of significance of results in

the questionnaire responses as the questions dealt with the more distant future.

Now the most significant finding of all will be discussed, a result that was neither hypothesized or even expected; it was serendipitous. As the counseling continued in the class, the class attendance increased. During the counseling the word was passed by other students to the students who were absent from the power mechanics class that something was happening in class that they should not miss. Thus nonattenders steadily appeared. In contrast to this increase, the number of students in the control group steadily declined as time passed. (Classes containing low achieving students have traditionally done this.) The differences between the two groups increased at one point to where the experimental group contained 36% more students than the control group. This increased attendance can be explained by assuming that the low achieving students believed that something worthwhile was happening in that power mechanics class and became interested enough to come and participate. At every point after the onset of counseling, class attendances for experimentals and controls were significantly different. This suggests that one way to get a student to come to class is to make the class relevant for him and one way to do this is to ask him to think over with the teacher what he wants to do with his life. If more teachers or counselors would spend time with students helping them learn about future opportunities, perhaps more low achieving students would come to class. Perhaps more students would like school better and schools could reach more low achieving students to help them make a life for themselves in the world if career counseling were initiated in every classroom.

A follow-up study, done 6 weeks after the study ended, indicated that many of the gains that had been made during the weeks of counseling might have more of a long range effect than had first been expected. The experimental group's

attendance continued to be significantly higher than the control group's because the dropout rate was not as high for the experimental group. This brings to mind the study by Mezzano (1968, pp. 222-224) and others. In this study, Mezzano talks about an incubation period of many weeks before the effects of counseling really take hold. From looking at the attendance data it might suggest that maybe this study affected more than just a short term Hawthorne effect and that possibly the real effects of the counseling did not occur directly after counseling. Possibly the strategies and information that were given to the student needed time for the student to put into action and that is why the gains in the CMI were not greater. It would be interesting to study the experimental subjects and the control subjects over the years to see if, in fact, the counseling really did take effect just like the attendance data suggest. Certainly, attendance as a manifest behavior is a more impressive measure of effect than a paper-and-pencil attitude test like the CMI.

CONCLUSION

It seems that counseling helps low achieving students by increasing their career competence. Counseling also appears to help increase students' certainty at least about the near future. Finally, and unexpectedly, career counseling seems to help attract some low achieving students to class. This suggests that students must have believed that career counseling fulfilled a need; this conclusion is also reinforced by the reports of the students on the WORKSHOP SATISFACTION QUESTIONNAIRE. It is clear from this instrument that even after six weeks of counseling, most (72.4%) of the students were definitely interested in more counseling. It would be useful to do a similar study extending the counseling over the whole semester or whole year. Students never seemed to run out of ideas to talk about with the counselors; having someone who was

interested about their future seemed to gratify most of them as they responded enthusiastically. It is suggested for further study that if career counseling were given on a regular basis over an extended period of time (at least 6 months) that significant gains might be shown on the CMI. Also, this study suggests that career counseling might effectively be integrated into the curriculum if for no other reason than to induce some low achievers to come to class. Career counseling appears to be a way to show students the relevance of high school preparation to their future lives. Moreover, if it leads the student to come to the Community College he will be more realistic about its demands and better prepared to survive in its rigorous atmosphere.

APPENDIX

Appendix A

Results of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE for the

Experimental and Control Groups in Pilot Study

Question

1. yes: experimental group (5) 55.6%; control group (3) 42.9%
   no: experimental group (4) 44.0%; control group (4) 57.1%

Question	very certain 1	certain 2	uncertain 3	very uncertain 4	no response
2. experimental group	(5) 55.6%	(2) 22.2%	0	(2) 22.2%	0
control group	(1) 14.3%	(1) 14.3%	(1) 14.3%	(3) 42.9%	(1) 14.3%
3. experimental group	(2) 22.2%	(5) 55.6%	0	(2) 22.2%	0
control group	0	(3) 42.9%	0	(3) 42.9%	(1) 14.3%
5. experimental group	(5) 55.6%	(2) 22.2%	(1) 11.1%	(1) 11.1%	0
control group	(1) 14.3%	(1) 14.3%	(2) 28.9%	(2) 28.9%	(1) 14.3%
7. experimental group	(4) 44.4%	(1) 11.1%	(3) 33.3%	0	(1) 11.1%
control group	0	(1) 14.3%	(2) 22.2%	(3) 42.9%	(1) 14.3%
9. experimental group	(3) 33.3%	(2) 22.2%	(4) 44.4%	0	0
control group	0	(1) 14.3%	(2) 28.9%	(3) 28.9%	(1) 14.3%

Appendix B

Results of FISHER EXACT TEST when Applied to Each Question of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE in the Pilot Study

Question 1: Do you plan to go to college?

	Yes	No	
Experimental Group	5	4	9
Control Group	3	4	7
	8	8	16

(To be significant at the 0.5 level C must equal 0. Not significant because C = 3.)

0 = .05 level
(C = 3) not significant

Question 2: How certain are you about going to college?

(1) Very Certain (3) Uncertain
(2) Certain (4) Very Uncertain
(5) No Response

Experimental Group	7	2	9
Control Group	2	5	7
	9	7	16

(To be significant at the .05 level C must equal 1. Not significant because C = 2)

1 = .05 level
(C = 2) not significant at .05

Question 3: How certain are you about completing two years of college?

(1) Very Certain (3) Uncertain
(2) Certain (4) Very Uncertain
(5) No Response

Experimental Group	7	2	9
Control Group	2	5	7
	9	7	16

(To be significant at the .05 level C must equal 1. Not significant because C = 2)

1 = .05 level
(C = 2) not significant

Question 5: How certain are you about attaining (your stated) occupational goal?

(1) Very Certain (3) Uncertain
(2) Certain (4) Very Uncertain
(5) No Response

Experimental Group	7	2	9
Control Group	2	5	7
	9	7	16

(To be significant at the .05 level C must equal 1. Not significant because C = 2)

1 = .05 level
(C = 2) not significant

Question 7: How certain are you about having (your stated) job in five years?

(1) Very Certain (3) Uncertain
(2) Certain (4) Very Uncertain
(5) No Response

Experimental Group	5	4	9
Control Group	1	6	7
	6	10	16

(To be significant at the .05 level C must equal 0. Not significant because C = 1)

0 = .05 level
(C = 1) not significant

Question 9: How certain are you about having (your stated) job in ten years from now?

(1) Very Certain (3) Uncertain
(2) Certain (4) Very Uncertain
(5) No Response

Experimental Group	5	4	9
Control Group	1	6	7
	6	10	16

(To be significant at the .05 level C must equal 0. Not significant because C = 1)

0 = .05 level
(C = 1) not significant

Appendix C

Responses of the Students in the Experimental Group to the

WORKSHOP SATISFACTION QUESTIONNAIRE

Pilot Study

Question	Agree 1	Somewhat agree 2	Unsure 3	Somewhat disagree 4	Disagree 5
1.	(7) 88%			(1) 13%	
2.	(5) 62.5%	(2) 25%	(1) 12.5%		
3.	(4) 50%	(3) 37.5%			(1) 12.5%
4.	(4) 50%	(2) 25%	(2) 25%		
5.	(3) 37.5%	(4) 50%			(1) 12.5%
6.	(7) 87.5%				(1) 12.5%
7.	(7) 87.5%	(1) 12.5%			
8.	(6) 75%	(1) 12.5%	(1) 12.5%		
9.	(4) 50%	(3) 37.5%	(1) 12.5%		
10.	(7) 87.5%		(1) 12.5%		

Appendix D

Raw Scores for the Students in Experiment on the

CAREER MATURITY INVENTORY

Experimental Group

Student	Grade Level	Attitude Scale	Competence Scale Part 1	Competence Scale Part 3
1.	10	26	8	9
2. ra	11	29	4	6
3.	10	31	6	5
4.	12	19	-	-
5.	11	38	19	14
6. ra	11	35	13	10
7. ra	11	42	18	19
8. ra	11	42	12	19
9.	10	41	15	13
10. ra	10	34	9	4
11.	—	29	4	10
12.	10	24	13	10
13.	10	21	8	6
14.	10	33	2	10
15.	10	32	5	8
16. ra	10	31	5	8
17. ra	10	34	9	10
18.	10	33	10	10
19. ra	10	35	7	10
20. ra	10	43	16	17
21.	11	38	6	7

Experimental Group (continued)

Student	Grade Level	Attitude Scale	Competence Scale Part 1	Competence Scale Part 3
22. ra	10	37	14	14
23. ra	10	36	4	9
24. ra	10	33	12	15
25.	10	24	12	—
26. ra	12	28	14	14
27.	10	36	13	10
28. ra	10	26	12	12
29. ra	12	40	11	10
30. ra	12	37	14	13
31. ra	11	33	13	12
32. ra	10	35	13	8

Appendix D (continued)

Control Group

Student	Grade Level	Attitude Scale	Competence Scale Part 1	Competence Scale Part 3
1. ra	10	39	15	12
2. ra	11	22	19	6
3. ra	10	28	12	14
4. ra	10	31	2	5
5. ra	10	36	13	13
6. ra	10	39	15	16
7. ra	12	46	18	16
8. ra	11	36	14	17
9. ra	10	38	8	12
10. ra	10	40	7	14
11. ra	9	24	0	0
12. ra	10	31	5	3
13. ra	10	29	7	3
14. ra	10	40	7	4
15. ra	11	38	5	5
16. ra	12	21	2	4
17. ra	12	28	18	12
18. ra	10	35	6	1
19.	12	36	12	10

Note: All students were male except for one female each in the experimental group and control group. Each group was 40% black.

Appendix E

Results of the FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE for Experiment

Question	yes	no	don't know
1.	experimental group (22) 75.9% control group (10) 52.6%	experimental group (6) 20.7% control group (7) 36.8%	(1) 3.5% (2) 10.5%

Question	very certain 1	certain 2	uncertain 3	very uncertain 4	no response 5
2. experimental group	(10) 34.5%	(14) 48.3%	(3) 10.4%	(2) 6.9%	(0)
control group	(5) 26.3%	(4) 21.1%	(5) 26.3%	(3) 15.8%	(2) 10.5%
3. experimental group	(11) 37.9%	(10) 34.5%	(5) 17.2%	(3) 10.4%	(0)
control group	(6) 31.6%	(3) 15.8%	(4) 21.1%	(4) 21%	(2) 10.5%
5. experimental group	(9) 31%	(9) 31%	(7) 24%	(3) 10.4%	(1) 3.5%
control group	(5) 26.3%	(6) 31.6%	(4) 21%	(2) 10.5%	(2) 10.5%
7. experimental group	(5) 17.2%	(10) 34.5%	(7) 24%	(6) 20.7%	(1) 34.5%
control group	(2) 10.5%	(4) 21%	(6) 31.6%	(4) 21.1%	(3) 15.8%
9. experimental group	(4) 13.8%	(8) 27.6%	(3) 10.3%	(4) 13.8%	(10) 34.5%
control group	(1) 5.3%	(3) 15.8%	(6) 31.6%	(4) 21%	(5) 26.3%

Note: Three students in the Experimental group did not hand in this questionnaire.

Appendix F

Chi Square Data for FUTURE PLANNING AND CERTAINTY QUESTIONNAIRE

Question 1: Do you plan to go to college?

	Yes	No Response	
Experimental Group	22	7	29
Control Group	10	9	19
	32	16	48

X^2 = 1.84 significant to .10 at 1 degree of freedom

Question 2: How certain are you about going to college?

	Very Certain and Certain	Uncertain Very Uncertain and No Response	
Experimental Group	24	5	29
Control Group	9	10	19
	33	15	48

X^2 = 5.15 significant above .025 level at 1 degree of freedom

Question 3: How certain are you about completing two years of college?

	Very Certain and Certain	Uncertain Very Uncertain and No Response	
Experimental Group	21	8	29
Control Group	9	10	19
	30	18	48

X^2 = 2.1 significant above .10 level at 1 degree of freedom

Appendix F (cont'd.)

Question 5: How certain are you about attaining (your stated) ouccupational goal?

	Very Certain and Certain	Uncertain Very Uncertain and No Response	
Experimental Group	18	11	29
Control Group	11	8	19
	29	19	48

X^2 = .00016 not significant at 1 degree of freedom

Question 7: How certain are you about having (your stated) job in five years?

	Very Certain and Certain	Uncertain Very Uncertain and No Response	
Experimental Group	15	14	29
Control Group	6	13	19
	21	27	48

X^2 = 1.16 not significant at 1 degree of freedom

Question 9: How certain are you about having this job ten years from now?

	Very Certain and Certain	Uncertain Very Uncertain and No Response	
Experimental Group	12	17	29
Control Group	4	15	19
	16	32	48

X^2 = 1.32 not significant at 1 degree of freedom

Appendix G

Responses of the Students in the Experimental Group to the

WORKSHOP SATISFACTION QUESTIONNAIRE

Experiment

Question	Agree 1	Somewhat agree 2	Unsure 3	Somewhat disagree 4	Disagree 5
1.	(7) 24.1%	(12) 41.4%	(8) 27.6%	(1) 3.5%	(1) 3.5%
2.	(7) 24.1%	(12) 41.4%	(8) 27.6%	(1) 3.5%	(1) 3.5%
3.	(6) 20.7%	(12) 41.4%	(7) 24.1%	(2) 6.9%	(2) 6.9%
4.	(5) 17.2%	(5) 17.2%	(15) 51.7%	(2) 6.9%	(2) 6.9%
5.	(3) 10.4%	(10) 34.5%	(11) 37.9%	(3) 10.3%	(1) 3.5%
6.	(13) 44.8%	(8) 27.6%	(6) 20.7%	(0) 0%	(2) 6.9%
7.	(6) 20.7%	(5) 17.2%	(5) 17.2%	(1) 3.5%	(12) 41.4%
8.	(11) 37.9%	(10) 34.5%	(3) 10.3%	(3) 10.4%	(2) 6.9%
9.	(4) 13.8%	(8) 27.6%	(10) 37.9%	(6) 20.7%	(1) 3.5%
10.	(13) 44.8%	(8) 27.6%	(6) 20.7%	(1) 3.5%	(1) 3.5%

Note: Three (3) questionnaires were not returned, thus N = 29.

REFERENCES

Amos, W.E. and Grambs, J.D. Counseling the Disadvantaged Youth. Englewood Cliffs, New Jersey: Prentice-Hall, 1968.

Asbury, F.A. An experimental study of guidance treatments to accelerate vocational development in eighh grade males in Appalachia. Unpublished doctoral disseration, University of Kentucky, 1967.

Ashby, J.D., Wall, H.W. and Osipow, S.H. Vocational certainty and indecision in college freshman. Personnel and Guidance Journal, 1966, 44, 1037-1041.

Bancroft, J.F. Counseling the disadvantaged child. The School Counselor, 1967, 14, 345-349.

Berg, I. Education and jobs: The Great Training Robbery. Boston: Beacon, 1971.

Boocock, S.S. Simulation games: Bringing the world into the classroom. Vassar Alumnae Magazine, 1964, 44, 20-23.

Bovee, C.C. A study of the preparation phase of the Presbyterian guidance program in the Synod of Georgia. Unpublished doctoral disseration, Universtiy of Georgia, 1967.

Brazziel, W.F. and Gordon, M. Replications of some aspects of the Higher Horizons program in a Southern junior high school. NASSP Bulletin, 1963, 47, 135-143.

Brown, B.R. The assessment of self concept among four-year-old Negro and white children: a comparative study using the Brown-IDS Self Concept Reference Tests. New York: Institute for Developmental Studies, New York University, 1966.

Brown, R. Social Psychology. New York: The Free Press, 1965.

Calia, V.F. The culturally deprived client: a re-formation of the counselor's role. Journal of Counseling Psychology, 1971, 13-1, 380-385.

Campbell, D.P. The results of counseling: Twenty-five years later. Philadelphia: Saunders, 1965.

Campbell, R.E. Walz, G.R., Miller, J.V., and Kriger, S.F. Career Guidance: A Handbook of Methods. Columbus, Ohio: Charles E. Merrill, 1973.

Cohn, B. The effects of group counseling on school adjustment of underachieving junior high school boys who demonstrate acting-out-behavior. Bedford Hills, New York: Board of Cooperative Educational Services, 1964. (ED 033 370)

Couch, A. and Keniston, K. Yeasayers and naysayers agreeing response set as a personality variable. Journal Abnormal, Social Psychology, 1960, 60, 151-174.

Crites, J.O. A reappraisal of vocational appraisal. Vocational Guidance Quarterly, 1974, 22-4, 272-279.

Crites, J.O. Career Maturity Inventory. Monterey, California: CTB/McGraw-Hill, 1973.

Crites, J.O. Career Maturity Inventory: Theory and Research Handbook. New York: McGraw-Hill, 1973.

Crites, J.O. Measurement of vocational maturity in adolescence. Psychological Monographs, 1965, 79 (Whole No. 575).

Crites, J.O. The maturity of vocational attitudes in adolescence. Washington, D.C.: American Personnel and Guidance Association, Inquiry Series Monograph No. 2, 1971

Curtis, J.W. Curtis Interest Scale. Chicago: Psychometric Affiliates, 1964.

Flowers, S.H. A project to demonstrate the effectiveness of unstructured group counseling in developing in disabled persons insights and positive attitudes. Final report. Group counseling as an aid in the employment of hard-to-place rehabilitation clients. Research brief. Baltimore: Maryland State Department of Education, Division of Vocational Rehabilitation, 1970. (ED 044 750)

Gilliland, B.E. An evaluation of the effects of small group counseling with Negro adolescents. Unpublished doctoral dissertation, University of Tennessee, 1966.

Ginzberg, E. Career Guidance. New York: McGraw-Hill, 1971.

Goodson, W.D., A study to determine the value of vocational college orientation groups by a comparison of various approaches. Unpublished doctoral dissertation, Brigham Young University, 1969.

Healy, C.C. Interrelationships among indexes of vocational maturity. Vocational Guidance Quarterly, 1974, 23-2, 146-151.

Hoppock, R. Occupational Information. New York: McGraw-Hill, 1967.

Johnson, C.N. Basic Studies: a description and progress. ERIC Clearinghouse for Junior College Information. Los Angeles: University of California, 1970.

Keil, E.C. and Barbee, J.R. Behavior modification and training the disadvantaged job interviewee. Vocational Guidance Quarterly, 1973, 22-1, 50-56.

Koos, L.V. The Community College Student. Gainesville: University of Florida Press, 1970.

Medsker, L.L. The Junior College. New York: McGraw-Hill, 1960.

Mezzano, J. Group counseling with low motivated male high school students; comparative effects of two uses of counselor time. Journal of Educational Research, 1968, 61, 222-224.

Monroe, C.R. Profile of the Community College. San Francisco: Jossey-Bass Inc., 1972.

National Advisory Council on Vocational Education. Counseling and guidance: a call for change. Vocational Guidance Quarterly, 1972, 21-2, 97-101.

Riessman, F. The Culturally Deprived Child. New York: Harper, 1967.

Roueche, J.E. Salvage, Redirection or Custody? - Remedial Education in the Community Junior College. ERIC Clearinghouse for Junior College Information.

Schmieding, D.A., and Jensen, S.F. American Indian students: Vocational development and vocational tenacity. Vocational Guidance Quarterly, 1968, 17, 120 - 123.

Shirts, R.G. Career simulation for sixth-grade pupils. Final Report. Department of Education, San Diego County, Vocational and Technical Education Grant No. HRD - 131 - 65, U.S. Department of Health, Educationa, and Welfare, 1966.

Shirts, R.G. Response style in the Vocational Development Inventory. Unpublished doctoral dissertation. University of Utah, 1968.

Siegel, S. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, 1956.

Smith, P.L. and Walz, G.R. Developing Students' Potentials. Washington, D.C.: Education Resources Division Capitol Publications, Inc., 1974.

Soares, A.T. and Soares, L.M. A comparative study of the self perceptions of disadvantaged children in elementary and secondary schools. Paper presented at the annual convention of the American Psychological Association, Washington, D.C., Sept. 1969.

Super, D.E. and Bohn, M.J. Occupational Psychology. Belmont, California: Wadsworth Publishing Company, Inc., 1970.

Super, D.E. and Crites, J.O. Appraising Vocational fitness by means of Psychological Tests. New York: Harper and Row, 1962.

Tuckman, B.W. Conducting Educational Research. New York: Harcourt Brace and Jovanovich, 1972.

Tuckman, B.W. The teacher and the psychology of the culturally deprived. In B.W. Tuckman and J.L. O'Brian (ed.) Preparing to Teach the Disadvantaged. New York: The Free Press, 1969, pp. 3-20.

U.S. Department of Labor. Occupational Outlook Handbook 1974-1975 Edition. Bulletin 1785. Washington, D.C.: U.S. Government Printing Office, 1974.

U.S. Department of Labor. Occupational Outlook Quarterly. Washington, D.C.: U.S. Government Printing Office, 1973.

Watts, A.G. Counseling and career education in the United States: a visitor's view. Vocational Guidance Quarterly, 1973, 21-4, 254-261.

Williamson, E.G. and Bordin, E.S. Evaluating counseling by means of a control-group experiment. School and Society, 1940, 52, 434-440.

Williamson, E.G. Vocational Counseling. New York: McGraw-Hill, 1965.

Wood, H. Occupational outlook information: its challenges in vocational guidance. Vocational Guidance Quarterly, 1974, 22-4, 301-307.